

A Complete Bibliography of *ACM Transactions on Spatial Algorithms and Systems (TSAS)*

Nelson H. F. Beebe
University of Utah
Department of Mathematics, 110 LCB
155 S 1400 E RM 233
Salt Lake City, UT 84112-0090
USA

Tel: +1 801 581 5254
FAX: +1 801 581 4148

E-mail: beebe@math.utah.edu, beebe@acm.org,
beebe@computer.org (Internet)
WWW URL: <http://www.math.utah.edu/~beebe/>

02 March 2022
Version 1.06

Title word cross-reference

2 [ABM16, WK18]. 3 [ABM16, VTSD18]. *A**
[PWH21]. *K* [PAB⁺16, CCBS18].

2017 [Are19]. 2019 [Are21].

Accessible [KKT⁺18]. **Accessing**
[CSF⁺19]. **accident** [HHRR20].
Accumulated [KS15]. **Accurate**
[ABY17, BBS19, WLL⁺19]. **ACM**
[Are19, Are21]. **Activity** [MH19].
Activity-aware [MH19]. **Adaptive**
[DAGM21, DPG20]. **Adversarial**
[WCC⁺20]. **Against** [GDSB16]. **Agents**
[KKT⁺18]. **Aggregate** [DCY⁺18].
Aggregation [PWH21, VTSD18]. **AI**

[Wer21]. **AI-Enhanced** [Wer21]. **Air**
[SKZ⁺20]. **Aircraft** [ACS19]. **Algorithm**
[BMNP16, BVW16, FAMF16, PLHC19].
Algorithms
[GHN15, Gol19, KTY⁺18, YKC20]. **Along**
[MKW20]. **among** [EP20, GHPS21].
Analysis [BM20, LA19, MIF17, RLA19].
Analyzing [BPS18]. **Angular** [Pet21].
Anomalous [DPKW19]. **Anomaly**
[SGBM20, WLL⁺19]. **Apache** [WMPH19].
Application [JS19, TIKG18, TL20].
Applications
[AWD⁺18, FNCO20, SGBM20]. **Applied**
[EP20]. **Approach** [ARF19, FNCO20,
HBH⁺21, KPS17, MKW20, TLF⁺20].
Approaches [CDFP21]. **Apps** [CSKB19].
Area [BMVS16, PWH21, Pet21].
Area-Preserving [BMVS16].

Arrangements [PSD⁺21]. **Arterial** [MKW20]. **Assessment** [LNK⁺21]. **Assigned** [TSK15]. **Assignment** [SSTN19]. **Assimilation** [LH17]. **Assisted** [HKK⁺19]. **Attacks** [GDSB16]. **Attention** [ZWT⁺20]. **Auto** [STZ⁺20, ZGP19]. **Auto-Encoders** [STZ⁺20]. **Auto-regressive** [ZGP19]. **Autologistic** [SMM19]. **Automatic** [ZSBA21]. **Aware** [CKT⁺19, GKR16, HYL16, DV21, MH19, NKTB20]. **Axis** [TIKG18].

Balancing [DAGM21]. **Based** [AFHW15, FNCO20, GDSB16, LH17, MAK⁺18, MIF17, PK16, YÖR20, ZGP19, BM20, BASM21, MKW20, WCM20, YSWZ18]. **Batch** [CCBS18]. **Behavior** [HKK⁺19, LZLL20, ZSFB20]. **Behaviors** [TKC17]. **Best** [Are19, Are21]. **Big** [DAGM21, VBME21]. **Binary** [TYZO15]. **Boundary** [GHN15]. **Boundary-Labeling** [GHN15]. **Bucket** [TYZO15]. **Buy** [AKRH19].

Candidates [NLC16]. **Case** [QKZU20]. **Categorical** [SMM19]. **Cavity** [CDFP21]. **CellNet** [MIF18]. **Cellular** [CSF⁺19]. **Centric** [GDSB16]. **Chains** [PSD⁺21]. **Cities** [ZSBA21]. **City** [DBB20]. **Classification** [CEGH17]. **Closed** [Pet21]. **Closed-Form** [Pet21]. **Closure** [PLHC19]. **Cloud** [BPM21, PBGA19]. **Clustered** [JS19]. **Clustering** [BASM21]. **Co** [AKAM17, PSD⁺21, PAB⁺16]. **Co-occurrence** [PAB⁺16]. **Co-Occurrences** [AKAM17]. **Collaborative** [ATS⁺16]. **Collective** [ISNU17]. **Combination** [TYZO15]. **Combining** [CDFP21]. **Communities** [FNCO20]. **Comparison** [AFHW15]. **Complex** [MF15]. **Compression** [PBGA19]. **Computation** [FAMF16, JS19, KKT⁺18, KS15]. **Computer** [TLF⁺20]. **Computing** [AKRH19, PSD⁺21]. **Conference** [Are19, Are21]. **Conflict** [ACS19]. **Congestion** [CKT⁺19]. **Congestion-Aware** [CKT⁺19]. **Conquer** [MICNC21]. **Consensus** [ATS⁺16]. **Considering** [ROOF17, YÖR20]. **Consistent** [CKM⁺21]. **Constraints** [ZGP19]. **Context** [DV21, NKTB20, DCAA21]. **Context-aware** [DV21, NKTB20]. **Continuous** [ZYW⁺21]. **Contrast** [LZLL20]. **Control** [ARF19]. **Controlled** [LZLL20]. **Convolutional** [HHRR20]. **Coordinate** [BDW18]. **Coordinate-Free** [BDW18]. **Corridors** [KTHK19]. **Cost** [KS15]. **Coupled** [SGBM20]. **Crime** [BPS18]. **Crowd** [CSF⁺19, HBH⁺21, HKK⁺19, WLL⁺19, WCC⁺20]. **Crowd-sourced** [HBH⁺21]. **Crowds** [NLC16]. **Crowdsourced** [BPS18, LNK⁺21, SPKS16]. **Crowdsourcing** [CN20, LCKQ20, TSK15]. **Curves** [EP20]. **Cusps** [Pet21].

D [ABM16, VTSD18, WK18]. **Data** [AKM21, AH17, ACS19, BPS18, BDKS19, CSF⁺19, CEGH17, DAGM21, DHQ⁺21, DPG20, DV21, HBH⁺21, ISNU17, KPS17, LH17, MR21, NKTB20, PBGA19, PLHC19, SGBM20, VTSD18, VBME21, Wer21, ZSBA21]. **Data-driven** [ACS19, DV21]. **Database** [SS21]. **Databases** [TL20]. **Datasets** [BMNP16, JSL⁺20, PAB⁺16, TDPT20, Wer21]. **Decomposition** [CDFP21]. **Deep** [DPG20, FNCO20, SKZ⁺20, TL20, VBME21, WCM20, YKC20, ZSBA21]. **Demand** [ARF19]. **Density** [TLF⁺20]. **Dependency** [ZGP19]. **Deployment** [DBB20]. **Detail** [VTSD18]. **Detecting** [FHK⁺18]. **Detection** [ACS19, DPKW19, HHRR20, PLHC19, SGBM20, SOdB⁺20, WLL⁺19]. **Determination** [ROOF17]. **Deviations** [FHK⁺18]. **Diagrams** [ZYW⁺21].

Dictionary [PBGA19]. **Differentiating** [ZSFB20]. **Direction** [LA19]. **Disaster** [DBB20]. **Discovery** [NLC16]. **Discrete** [EP20]. **Disk** [MAK⁺18]. **Disk-Based** [MAK⁺18]. **Distance** [AFHW15]. **Distances** [EP20]. **Distortion** [Pet21]. **Distributed** [ARF19, DAGM21, TDPT20, WMPH19]. **Distribution** [BPS18]. **Diversity** [DHQ⁺21]. **Divide** [MICNC21]. **Drift** [SOdB⁺20]. **driven** [ACS19, DV21]. **Driving** [LZLL20, WLL⁺19]. **DropBox** [DBB20]. **Dynamic** [DV21, EP20, GKR16]. **Dynamics** [QKZU20].

Efficient [ABY17, BBS19, DBB20, EEP16, FAMF16, KKT⁺18, RHJC19, ROOF17, SS21, TYZO15]. **Encoders** [STZ⁺20]. **End** [ZWT⁺20]. **End-to-End** [ZWT⁺20]. **Energy** [ABY17]. **Energy-Efficient** [ABY17]. **Engulfs** [BDW18]. **Enhanced** [KTY⁺18, Wer21]. **Enrichment** [TL20]. **Entities** [SS21]. **Environment** [ATS⁺16, TIKG18]. **Environmental** [FNCO20]. **Epidemic** [WCM20]. **Equal** [Pet21]. **Equal-Area** [Pet21]. **Estimating** [ISNU17, SKZ⁺20]. **Estimation** [SPKS16, TLF⁺20]. **Euclidean** [EP20]. **Event** [GDSB16, PK16, ZCLR16]. **Event-Based** [PK16]. **Example** [PSTT16]. **Exchange** [DBB20]. **Experiment** [LZLL20]. **Expert** [NLC16]. **Exploring** [SKZ⁺20]. **Extended** [PAB⁺16]. **External** [FAMF16, GDSB16].

Family [FDMW20]. **Fast** [JS19, LCKQ20]. **Feature** [YSWZ18]. **Feature-based** [YSWZ18]. **Features** [ZSFB20]. **Fencing** [TYZO15]. **Filtering** [LH17]. **Finding** [KTHK19, PWH21]. **Fingerprint** [LNK⁺21]. **Flash** [TPZ15]. **Flexible** [MH19]. **Flood** [LA19, RLA19]. **Flood-Risk** [LA19]. **Flow** [ISNU17, WCC⁺20]. **Football** [CEGH17]. **Force** [YÖR20]. **Forecasting** [WCM20, ZCLR16]. **Form** [Pet21]. **Fragile** [WK18]. **Framework** [AH17, ACS19, LCKQ20, MICNC21, TSK15]. **Fréchet** [EP20, GHPS21]. **Free** [BDW18].

GAN [WCC⁺20]. **GANs** [JSL⁺20, SGBM20]. **General** [AH17]. **Generalized** [RHJC19]. **Generating** [JSL⁺20, MF15]. **Generation** [BBS19, KPS17]. **Generative** [WCC⁺20]. **Generic** [TPZ15]. **Geo** [AKM21, NLC16, TYZO15]. **Geo-Fencing** [TYZO15]. **Geo-Located** [NLC16]. **Geo-Social** [AKM21]. **Geographical** [FNCO20]. **Geographically** [BBS19]. **Geography** [NT18]. **Geometric** [BMNP16]. **Geosensor** [BDW18]. **Geospatial** [ZSFB20]. **Global** [Wer21, ZSBA21]. **Global-scale** [ZSBA21]. **GloBiMapsAI** [Wer21]. **GPS** [ABY17, FHK⁺18, HBH⁺21, MIF17, MIF18, SSTN19, YSWZ18]. **GPS-Less** [ABY17]. **GPU** [ABM16]. **Graph** [KTHK19, SS21]. **Graphical** [ISNU17]. **Graphics** [KS15]. **Graphs** [DPKW19]. **Grid** [MIF17]. **Grid-Based** [MIF17]. **Grids** [ABM16]. **Group** [KKT⁺18, MH19, PK16, RHJC19]. **GTS** [LCKQ20]. **guided** [WCM20].

Hailing [JSL⁺20]. **Hashing** [TYZO15]. **Hierarchical** [FDMW20, VTSD18]. **Highway** [TL20]. **Historical** [BVW16]. **Human** [DHQ⁺21, HKK⁺19, SGBM20, DCAA21, WLL⁺19]. **Hybrid** [TYZO15].

Identifying [BDW18, FNCO20]. **IGMM** [SGBM20]. **IGMM-GANs** [SGBM20]. **Images** [GHN15, SKZ⁺20]. **Imbalance** [ARF19]. **Impact** [CSKB19, DCAA21]. **Improving** [DBB20]. **In-Bucket** [TYZO15]. **In-Route** [CN20]. **Incorporating** [STZ⁺20]. **Incremental** [DPG20]. **Index** [GHPS21, SS21, TPZ15]. **Indexes** [FDMW20]. **Indexing** [KTY⁺18, MAK⁺18].

Individual [SSTN19, DCAA21]. **Indoor** [LNK⁺21, TKC17]. **Inference** [HBH⁺21, ZSBA21]. **Inferring** [MIF18]. **Influence** [HYL16]. **Influence-Aware** [HYL16]. **Information** [AKRH19, DBB20, ROOF17, WCM20]. **Infrastructure** [BPM21]. **Integer** [PWH21]. **Intelligent** [HHRR20]. **Intended** [FHK⁺18]. **Interaction** [YÖR20]. **Interactive** [BVW16]. **Interchange** [TL20]. **Internet** [NT18]. **Interpolation** [ABM16, MR21]. **Interpretable** [ZGP19]. **Intersection** [HHRR20]. **Introduction** [Are19, Are21, Gol19, YKC20]. **Issue** [Are19, Gol19, YKC20].

Join [TDPT20, WMPH19].

Keyword [AKM21].

Labeling [GHN15]. **Labels** [BVW16]. **Large** [LCKQ20, MICNC21]. **Large-Scale** [LCKQ20]. **Layered** [KPS17, TIKG18]. **Learning** [FNCO20, SKZ⁺20, TL20, VBME21, WCM20, YKC20, ZGP19]. **Learning-based** [WCM20]. **Less** [ABY17]. **Level** [VTSD18]. **Level-of-Detail** [VTSD18]. **LifeSteps** [PSTT16]. **Linear** [PWH21]. **Load** [DAGM21]. **Local** [NLC16]. **Localization** [ABY17]. **Located** [NLC16]. **Location** [DHQ⁺21, GDSB16, KKT⁺18, PK16, SPKS16, WK18]. **Location-** [PK16]. **Location-Centric** [GDSB16]. **Logic** [SMM19]. **Long** [ACS19]. **Long-Range** [ACS19]. **Low** [Pet21, YSWZ18]. **Low-Sampling-Rate** [YSWZ18]. **LSTM** [STZ⁺20].

Management [PBGA19, SS21]. **Many** [JS19]. **Many-to-many** [JS19]. **Map** [AFHW15, CFWW20, HBH⁺21, JS19, Pet21, SKZ⁺20, WK18, YSWZ18]. **Map-Matching** [CFWW20]. **MapLUR** [SKZ⁺20]. **Maps** [BBS19, BVW16, KPS17, LNK⁺21].

Markers [BVW16]. **Markov** [SMM19]. **Massive** [TDPT20]. **Matches** [CEGH17]. **Matching** [AWD⁺18, BVW16, CFWW20, DPKW19, JS19, YSWZ18]. **MaxCRS** [AH17]. **Maximum** [CKM⁺21]. **MaxRS** [AH17]. **Measuring** [AKAM17, CSKB19]. **Medial** [TIKG18]. **Memory** [FAMF16]. **Mesh** [TIKG18]. **Meshes** [FDMW20]. **Method** [MIF17]. **Metrics** [EP20]. **Metropolitan** [CSF⁺19]. **Microblogs** [ZCLR16]. **Minimal** [Pet21]. **Mining** [LZLL20, PAB⁺16, TKC17]. **Mixture** [ISNU17]. **Mobile** [BPM21, BDW18, CSF⁺19, KKT⁺18, LCKQ20]. **Mobility** [ARF19, CSF⁺19, DHQ⁺21, Gol19, QKZU20, SGBM20, SOdB⁺20, DCAA21, WLL⁺19, ZSFB20]. **Mobility-on-Demand** [ARF19]. **Model** [ARF19, DPG20, LA19, YÖR20]. **Models** [ISNU17]. **Monitoring** [AH17]. **Most** [PAB⁺16]. **Motion** [YÖR20]. **Movement** [KTHK19]. **Moving** [MF15, TLF⁺20]. **Multi** [TIKG18, WCC⁺20, YÖR20]. **Multi-Layered** [TIKG18]. **Multi-Pedestrian** [YÖR20]. **Multi-step** [WCC⁺20]. **Multiflow** [LA19]. **Multiflow-Direction** [LA19]. **Multinomial** [SMM19]. **Multitrow** [GHN15]. **Multivariate** [LZLL20].

Natural [ABM16]. **Navigation** [DV21, TIKG18]. **Near** [HHRR20]. **Near-accident** [HHRR20]. **Nearest** [EEP16, HYL16, ZYW⁺21]. **Nearest-Neighbor** [EEP16]. **Neighbor** [ABM16, EEP16, HYL16, ZYW⁺21]. **Nets** [WCC⁺20]. **Network** [DPG20, KPS17, WLL⁺19]. **Networks** [BM20, BDW18, CSKB19, GDSB16, HHRR20, KTY⁺18, MIF18, PK16, RHJC19, SMM19]. **Number** [LGLG19].

Obstructed [ZYW⁺21]. **occurrence** [PAB⁺16]. **Occurrences** [AKAM17].

Officer [STZ⁺20]. **Online** [ZCLR16]. **Open** [BPS18]. **Operational** [QKZU20]. **Optimal** [KKT⁺18, PWH21]. **Optimizations** [STZ⁺20]. **Optimizing** [LCKQ20]. **Our** [PSTT16]. **Outdoor** [ABY17]. **Overlay** [BDKS19].

Paired [LZLL20]. **Panorama** [GHN15]. **Papers** [Are19, Are21]. **Paradigm** [SKZ⁺20]. **Parking** [STZ⁺20].

Participatory [MR21]. **Particle** [LH17]. **Partition** [LH17]. **Partition-Based** [LH17]. **Partitioning** [VBME21]. **Passenger** [MKW20]. **Passenger-based** [MKW20]. **Passes** [CEGH17]. **Path** [AFHW15, DPKW19]. **Path-Based** [AFHW15]. **Paths** [CFWW20, JS19]. **Patrolling** [STZ⁺20]. **Pattern** [LZLL20]. **Patterns** [BASM21, PAB⁺16, SOdB⁺20]. **Pebbles** [BDKS19]. **Pedestrian** [TLF⁺20, YÖR20]. **People** [ISNU17].

Personalized [AKM21, DV21, LGLG19, PK16, SSTN19]. **Phenomena** [BPM21]. **Physically** [CKM⁺21]. **Planning** [FNCO20, MH19]. **POI** [SSTN19, ZWT⁺20]. **Point** [BASM21, PBGA19, SOdB⁺20]. **POIs** [MH19]. **Pollution** [SKZ⁺20]. **Polygon** [CDFP21]. **Polygonal** [BMVS16]. **Population** [ISNU17, ZSFB20]. **position** [LNK⁺21]. **Post** [DBB20]. **Post-Disaster** [DBB20]. **Posterior** [DPKW19]. **Postprocessing** [BVW16]. **Practical** [GHPS21]. **Predictability** [DCAA21]. **Predicting** [BPS18, BPM21]. **Prediction** [DPG20, LGLG19, WCC⁺20]. **Preferences** [FNCO20]. **Preserving** [BMVS16]. **Priority** [MKW20]. **Privacy** [GKR16, NKTB20]. **Privacy-** [NKTB20]. **Privacy-Aware** [GKR16]. **Probabilistic** [Wer21]. **Probe** [LGLG19, PLHC19]. **Problem** [CDFP21, STZ⁺20]. **Problems** [EP20, MICNC21]. **Procedural** [ZSBA21]. **Process** [BASM21]. **Process-based** [BASM21]. **Processing** [CCBS18, EEP16, HBH⁺21, KS15, ZYW⁺21]. **Producing** [BMNP16]. **Products** [EP20]. **Programming** [PWH21]. **Projection** [Pet21]. **Protecting** [GDSB16]. **Providers** [QKZU20]. **Proximity** [EP20, GDSB16, GHPS21]. **Proximity-Based** [GDSB16]. **Public** [HKK⁺19].

Quality [LNK⁺21]. **Quality-of-position** [LNK⁺21]. **Quantification** [HKK⁺19]. **Queries** [ATS⁺16, CCBS18, DCY⁺18, EEP16, GHPS21, MH19, NLC16, ZYW⁺21]. **Querying** [KTY⁺18].

Range [ACS19]. **Rank** [DCY⁺18]. **Raster** [Wer21]. **Rate** [YSWZ18]. **Raw** [SSTN19]. **Real** [HHRR20]. **Real-time** [HHRR20]. **Realistic** [JSL⁺20]. **Recommendation** [ZWT⁺20]. **Recommender** [PK16]. **Recurrent** [DPG20]. **ReFGeM** [ZSFB20]. **Region** [WK18]. **Regions** [MF15]. **Regression** [SMM19]. **regressive** [ZGP19]. **Regrets** [CSKB19]. **RegRocket** [SMM19]. **Regularity** [DCAA21]. **Relations** [BDW18, SPKS16]. **Release** [NKTB20]. **Relevance** [DHQ⁺21]. **Relevant** [EEP16]. **Remote** [DPG20]. **Replication** [HKK⁺19]. **Representations** [PAB⁺16]. **Representative** [ZSFB20]. **Resolution** [ACS19]. **Resources** [BPM21]. **Restore** [BMNP16]. **Retrieval** [MIF17]. **Reverse** [DCY⁺18, HYL16]. **Ride** [CKT⁺19, GKR16, JSL⁺20]. **Ride-Hailing** [JSL⁺20]. **Ride-Sharing** [CKT⁺19]. **Ridesharing** [MH19]. **Risk** [LA19, RLA19]. **Riso** [SS21]. **Riso-Tree** [SS21]. **Road** [BM20, KPS17, KTY⁺18, MIF18, PLHC19, RHJC19, WLL⁺19]. **Robust** [BMNP16, DPKW19, KPS17]. **Rocks** [BDKS19]. **Rounding** [BMNP16]. **Route** [CN20, DPKW19, MIF17]. **Routes** [FHK⁺18]. **Routing**

[CSKB19, DV21, MICNC21, NT18].

Sampling [YSWZ18]. **SARDINE** [DPG20]. **Scalable** [SMM19, SS21]. **Scale** [LCKQ20, ZSBA21]. **Scenes** [ROOF17]. **Scheduling** [RHJC19]. **Schematization** [BMVS16, CDFP21]. **SCPP** [BASM21]. **Search** [AKM21, HYL16, TYZO15]. **Section** [Are21]. **Selection** [CN20, TYZO15]. **Self** [DPG20]. **Self-Adaptive** [DPG20]. **Semi** [ZWT+20]. **Semi-supervised** [ZWT+20]. **Sensing** [DPG20, HKK+19, MR21]. **Sensing-Assisted** [HKK+19]. **Sensor** [BPM21]. **Sensors** [BDKS19, TLF+20]. **Seq2Seq** [WCC+20]. **SeqST** [WCC+20]. **SeqST-GAN** [WCC+20]. **Sequences** [PWH21]. **Series** [LZLL20]. **Server** [TSK15]. **Server-Assigned** [TSK15]. **Service** [QKZU20]. **Sharing** [CKT+19, GKR16]. **Shortest** [CFWW20, JS19]. **Signal** [HBH+21, MKW20]. **Signalized** [MKW20]. **Significance** [AKAM17]. **SIGSPATIAL** [Are19, Are21]. **Simplification** [BMVS16]. **Simulating** [PSTT16]. **Simulation** [LH17]. **Small** [LGLG19]. **Smart** [DBB20]. **SmarterROUTES** [DV21]. **Smoothing** [BDKS19]. **Snap** [BMNP16]. **Snapshots** [MF15]. **Social** [AKM21, GDSB16, HYL16, PK16, YÖR20]. **Solution** [DV21]. **Solutions** [Pet21]. **Solve** [STZ+20]. **Solving** [CDFP21]. **sourced** [HBH+21]. **Space** [SOdB+20, TKC17, ZYW+21]. **Space-Time** [SOdB+20]. **Spaces** [HKK+19]. **Spark** [WMPH19]. **Sparse** [KTHK19]. **Spatial** [ATS+16, AH17, BPS18, BASM21, CCBS18, CN20, DAGM21, FDMW20, LH17, MR21, PAB+16, SPKS16, SS21, TSK15, TL20, VTSD18, VBME21, WMPH19, YKC20, ZSFB20, ZSBA21, ZCLR16, ZGP19]. **Spatial-Textual** [CCBS18]. **Spatio** [AWD+18, BPM21, DPG20, WMPH19].

Spatio-Temporal

[AWD+18, BPM21, DPG20, WMPH19]. **Spatiotemporal** [AKRH19, AKAM17, BDKS19, CEGH17, ISNU17, PAB+16]. **Special** [Are19, Are21, Gol19, YKC20]. **Spread** [LH17]. **Square** [Pet21]. **Stationarity** [DCAA21]. **step** [WCC+20]. **Stepping** [KTHK19]. **Stochastic** [ARF19]. **Stone** [KTHK19]. **Stop** [TKC17]. **Stop-by** [TKC17]. **Storage** [TPZ15]. **Strategies** [WLL+19]. **stream** [HHRR20]. **Streaming** [AKM21, DAGM21]. **Streams** [AH17, BDKS19]. **Street** [AFHW15]. **String** [KTY+18]. **Structure** [GHPS21, Wer21]. **Subdivisions** [BMVS16]. **Subtrajectory** [TDPT20]. **supervised** [ZWT+20]. **Supporting** [GHPS21]. **Surface** [KS15]. **Surrounds** [BDW18]. **SWARM** [DAGM21]. **Symbolic** [GVD15]. **Synthetic** [WCM20]. **Systems** [ARF19, DAGM21, Gol19, PK16, SS21, YKC20]. **Task** [CN20, LCKQ20]. **TDEFISI** [WCM20]. **Techniques** [MR21]. **Temporal** [AKM21, AWD+18, BPM21, DPG20, WMPH19]. **Terrain** [FAMF16, ROOF17]. **Terrains** [LA19, RLA19]. **TerraNNI** [ABM16]. **Tetrahedral** [FDMW20]. **Textual** [CCBS18]. **Thematic** [VTSD18]. **Theory** [WCM20]. **Theory-guided** [WCM20]. **Throughput** [LCKQ20]. **Tilewise** [KS15]. **Time** [EP20, LGLG19, LZLL20, SOdB+20, HHRR20]. **Top** [CCBS18, PAB+16]. **Top-** [CCBS18, PAB+16]. **Topological** [PSD+21, ZGP19]. **Tracking** [KPS17]. **Tracks** [FHK+18]. **Traffic** [CSKB19, HHRR20]. **Trajectories** [CKM+21, GHPS21, GVD15, KTHK19, KTY+18, MAK+18, MIF18, SSTN19, YSWZ18]. **Trajectory** [NKTB20, TPZ15, ZWT+20]. **Transit** [BBS19, MKW20]. **Transportation** [AWD+18]. **Travel** [LGLG19]. **Treatment** [EP20]. **Tree** [SS21]. **Trees** [FDMW20].

TRIFL [TPZ15]. **Trip** [MH19, ZWT⁺20]. **Trips** [RHJC19]. **Turbo** [LCKQ20]. **Turbo-GTS** [LCKQ20]. **Two** [HHRR20]. **Two-stream** [HHRR20]. **Type** [BM20]. **Type-based** [BM20].

Understanding

[CSF⁺19, QKZU20, WLL⁺19, ZWT⁺20].

Unified [EP20]. **Units** [KS15]. **Unordered** [SMM19]. **Urban** [AWD⁺18, FNCO20, Gol19, ROOF17, WCC⁺20]. **User** [FNCO20]. **Using** [ABM16, BPS18, CFWW20, CEGH17, DPKW19, FHK⁺18, HBH⁺21, JSL⁺20, LNK⁺21, LGLG19, SMM19, SPKS16, SKZ⁺20, TLF⁺20, VBME21, ZSFB20, KTHK19]. [ABY17]

Value [AKRH19]. **Variables** [SMM19].

Vector [TL20, WK18]. **Vehicle** [KPS17, MICNC21, PLHC19, YÖR20].

Vehicles [LGLG19]. **Vehicular** [FHK⁺18].

Velocity [GDSB16]. **Velocity-Based** [GDSB16]. **via** [CSF⁺19, ISNU17, KTY⁺18, NLC16, TYZO15]. **Video** [HHRR20]. [ACS19]

Viewshed [FAMF16]. **Visibility** [ROOF17].

Vision [TLF⁺20]. **Visited** [SSTN19].

Visited-POI [SSTN19]. **Visiting** [BASM21]. **Visual** [LNK⁺21].

Visualization [VTSD18]. **Voronoi** [ZYW⁺21]. **VRPDiv** [MICNC21]. **vs** [PWH21].

Warping [EP20]. **Watermarking** [WK18].

Weighted [DCY⁺18, DPKW19]. **Wildfire** [LH17]. [AFHW15]

References

Agarwal:2016:TNN

[ABM16] Pankaj K. Agarwal, Alex Beutel, and Thomas Mølhave. TerraNNI: Natural neighbor interpolation on 2D and 3D grids us-

ing a GPU. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(2):7:1–7:31, July 2016. CODEN ????? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2786757>.

Aly:2017:AAE

Heba Aly, Anas Basalamah, and Moustafa Youssef. Accurate and energy-efficient GPS-less outdoor localization. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(2):4:1–4:??, August 2017. CODEN ????? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3085575>.

Ayhan:2019:DDF

Samet Ayhan, Pablo Costas, and Hanan Samet. A data-driven framework for long-range aircraft conflict detection and resolution. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(4):24:1–24:??, December 2019. CODEN ????? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3328832>.

Ahmed:2015:PBD

Mahmuda Ahmed, Brittany Terese Fasy, Kyle S. Hickmann, and Carola Wenk. A path-based distance for street map comparison. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(1):3:1–3:28, August 2015. CODEN ????? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2729977>.

- [AH17] **Amagata:2017:GFM**
 Daichi Amagata and Takahiro Hara. A general framework for MaxRS and MaxCRS monitoring in spatial data streams. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(1):1:1–1:34, May 2017. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=3080554>.
- [AKAM17] **Aydin:2017:MSS**
 Berkay Aydin, Ahmet Kucuk, Rafal A. Angryk, and Petrus C. Martens. Measuring the significance of spatiotemporal occurrences. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(3):9:1–9:??, November 2017. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3139351>.
- [AKM21] **Almaslukh:2021:TGS**
 Abdulaziz Almaslukh, Yunfan Kang, and Amr Magdy. Temporal geo-social personalized keyword search over streaming data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):20:1–20:28, December 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3473006>.
- [AKRH19] **Aly:2019:BBC**
 Heba Aly, John Krumm, Gireeja Ranade, and Eric Horvitz. To buy or not to buy: Comput-
- ing value of spatiotemporal information. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(4):22:1–22:??, December 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3320431>.
- [Are19] **Aref:2019:ISI**
 Walid G. Aref. Introduction to the special issue on the best papers from the 2017 ACM SIGSPATIAL Conference. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):1:1–1:??, June 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325134>.
- [Are21] **Aref:2021:ISS**
 Walid G. Aref. Introduction to the special section on the best papers from the 2019 ACM SIGSPATIAL Conference. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):16:1–16:2, December 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3485049>.
- [ARF19] **Albert:2019:IMD**
 Marc Albert, Claudio Ruch, and Emilio Frazzoli. Imbalance in mobility-on-demand systems: A stochastic model and distributed control approach. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):13:1–13:??, August 2019. CODEN ????

- ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325914>.
- [ATS⁺16] Mohammed Eunus Ali, Ege-
men Tanin, Peter Scheuermann,
Sarana Nutanong, and Lars Ku-
lik. Spatial consensus queries
in a collaborative environment.
*ACM Transactions on Spatial Al-
gorithms and Systems (TSAS)*, 2
(1):3:1–3:37, April 2016. CODEN
???? ISSN 2374-0353 (print),
2374-0361 (electronic). URL
<http://dl.acm.org/citation.cfm?id=2829943>.
- [AWD⁺18] Daniel Ayala, Ouri Wolfson,
Bhaskar Dasgupta, Jie Lin, and
Bo Xu. Spatio-temporal match-
ing for urban transportation ap-
plications. *ACM Transactions on
Spatial Algorithms and Systems
(TSAS)*, 3(4):11:1–11:??, May
2018. CODEN ???? ISSN 2374-
0353. URL <https://dl.acm.org/citation.cfm?id=3183344>.
- [BASM21] Denise E. F. Brito, Renato M.
Assunção, Roberto C. S. N. P.
Souza, and Wagner Meira, Jr.
SCPP: a point process-based
clustering of spatial visiting pat-
terns. *ACM Transactions on
Spatial Algorithms and Systems
(TSAS)*, 7(1):5:1–5:30, January
2021. CODEN ???? ISSN 2374-
0353 (print), 2374-0361 (elec-
tronic). URL <https://dl.acm.org/doi/10.1145/3423405>.
- [BBS19] Hannah Bast, Patrick Brosi,
and Sabine Storandt. Efficient
generation of geographically ac-
curate transit maps. *ACM
Transactions on Spatial Algo-
rithms and Systems (TSAS)*, 5
(4):25:1–25:??, December 2019.
CODEN ???? ISSN 2374-
0353. URL <https://dl.acm.org/citation.cfm?id=3337790>.
- [BDKS19] Philip E. Brown, Tamraparni
Dasu, Yaron Kanza, and Di-
vesh Srivastava. From rocks to
pebbles: Smoothing spatiotem-
poral data streams in an over-
lay of sensors. *ACM Transac-
tions on Spatial Algorithms and
Systems (TSAS)*, 5(3):18:1–18:??,
September 2019. CODEN ????
ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3329677>.
- [BDW18] Alan Both, Matt Duckham, and
Michael F. Worboys. Identifying
surrounds and engulfs relations
in mobile and coordinate-free
geosensor networks. *ACM Trans-
actions on Spatial Algorithms
and Systems (TSAS)*, 4(2):6:1–
6:??, August 2018. CODEN ????
ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3234505>.
- [BM20] Sarath Babu and B. S. Manoj.
Toward a type-based analysis of

Bast:2019:EGG**Ali:2016:SCQ****Brown:2019:RPS****Ayala:2018:STM****Both:2018:ISE****Brito:2021:SPP****Babu:2020:TTB**

- road networks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):28:1–28:45, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3397579>.
- [BMNP16] Alberto Belussi, Sara Migliorini, Mauro Negri, and Giuseppe Pelagatti. Snap rounding with restore: An algorithm for producing robust geometric datasets. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(1):1:1–1:36, April 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2811256>.
- [BPS18] **Belussi:2016:SRR** Alexandros Belesiotis, George Papadakis, and Dimitrios Skoutas. Analyzing and predicting spatial crime distribution using crowdsourced and open data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(4):12:1–12:??, May 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3190345>.
- [BMVS16] Kevin Buchin, Wouter Meulemans, André Van Renssen, and Bettina Speckmann. Area-preserving simplification and schematization of polygonal subdivisions. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(1):2:1–2:36, April 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2818373>.
- [BPM21] **Buchin:2016:APS** Sunanda Bose, Sumit Kumar Paul, and Nandini Mukherjee. Predicting spatio-temporal phenomena of mobile resources in sensor cloud infrastructure. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(3):11:1–11:38, September 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3446936>.
- [BVW16] **Belesiotis:2018:APS** Benedikt Budig, Thomas C. Van Dijk, and Alexander Wolff. Matching labels and markers in historical maps: An algorithm with interactive postprocessing. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(4):13:1–13:24, November 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2994598>.
- [CCBS18] **Budig:2016:MLM** Farhana M. Choudhury, J. Shane Culpepper, Zhifeng Bao, and Timos Sellis. Batch processing of top- k spatial-textual queries. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(4):13:1–13:??, May 2018. CO-
- [BPM21] **Bose:2021:PST**
- [CCBS18] **Choudhury:2018:BPT**

- DEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3196155>.
- [CDFP21] Serafino Cicerone, Mattia D’emidio, Daniele Frigioni, and Filippo Tirabassi Pascucci. Combining polygon schematization and decomposition approaches for solving the cavity decomposition problem. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):22:1–22:37, June 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3462760>.
- [CEGH17] Sanjay Chawla, Joël Estephan, Joachim Gudmundsson, and Michael Horton. Classification of passes in football matches using spatiotemporal data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(2):6:1–6:??, August 2017. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3105576>.
- [CFWW20] Erin Chambers, Brittany Terese Fasy, Yusu Wang, and Carola Wenk. Map-matching using shortest paths. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):6:1–6:17, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3368617>.
- [CKM⁺21] Bram Custers, Mees Van De Kerkhof, Wouter Meulemans, Bettina Speckmann, and Frank Staals. Maximum physically consistent trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):17:1–17:33, June 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3452378>.
- [CKT⁺19] Oscar Correa, A. K. M. Mustafizur Rahman Khan, Egemen Tanin, Lars Kulik, and Kotagiri Ramamohanarao. Congestion-aware ride-sharing. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):5:1–5:??, June 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3317639>.
- [CN20] Camila F. Costa and Mario A. Nascimento. In-route task selection in spatial crowdsourcing. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):7:1–7:45, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3368268>.
- [CSF⁺19] Hancheng Cao, Jagan Sankaranarayanan, Jie Feng, Yong Li,

Cicerone:2021:CPS

Custers:2021:MPC

Chawla:2017:CPF

Correa:2019:CAR

Chambers:2020:MMU

Costa:2020:RTS

Cao:2019:UMC

- and Hanan Samet. Understanding metropolitan crowd mobility via mobile cellular accessing data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):8:1–8:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3323345>.
- [CSKB19] Théophile Cabannes, Marco Sangiovanni, Alexander Keimer, and Alexandre M. Bayen. Regrets in routing networks: Measuring the impact of routing apps in traffic. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):9:1–9:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325916>.
- [DAGM21] Anas Daghistani, Walid G. Aref, Arif Ghafoor, and Ahmed R. Mahmood. SWARM: Adaptive load balancing in distributed streaming systems for big spatial data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(3):14:1–14:43, September 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3460013>.
- [DBB20] Nabanita Das, Souvik Basu, and Sipra Das Bit. Efficient Drop-Box deployment toward improving post-disaster information ex-
- change in a smart city. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):9:1–9:18, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3373645>.
- [DCAA21] Douglas Do Couto Teixeira, Aline Carneiro Viana, Jussara M. Almeida, and Mário S. Alvim. The impact of stationarity, regularity, and context on the predictability of individual human mobility. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):19:1–19:24, June 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3459625>.
- [DCY⁺18] Yuyang Dong, Hanxiong Chen, Jeffrey Xu Yu, Kazutaka Furuse, and Hiroyuki Kitagawa. Weighted aggregate reverse rank queries. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(2):5:1–5:??, August 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3225216>.
- [DHQ⁺21] Maria Luisa Damiani, Fatima Hachem, Christian Quadri, Matteo Rossini, and Sabrina Gaito. On location relevance and diversity in human mobility data. *ACM Transactions on Spatial Al-*

Cabannes:2019:RRN**Teixeira:2021:ISR****Daghistani:2021:SAL****Dong:2018:WAR****Das:2020:EDD****Damiani:2021:LRD**

- gorithms and Systems (TSAS)*, 7 (2):7:1–7:38, February 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3423404>.
- [DPG20] Monidipa Das, Mahardhika Pratama, and Soumya K. Ghosh. SARDINE: a self-adaptive recurrent deep incremental network model for spatio-temporal prediction of remote sensing data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6 (3):16:1–16:26, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380972>.
- [DPKW19] Lauren Doocy, Steven D. Prager, Joseph T. Kider, Jr., and R. Paul Wiegand. Robust path matching and anomalous route detection using posterior weighted graphs. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):14:1–14:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3338905>.
- [DV21] Jelle De Bock and Steven Verstockt. SmarterROUTES — a data-driven context-aware solution for personalized dynamic routing and navigation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7 (1):2:1–2:25, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3402125>.
- [Das:2020:SSA] Monidipa Das, Mahardhika Pratama, and Soumya K. Ghosh. SARDINE: a self-adaptive recurrent deep incremental network model for spatio-temporal prediction of remote sensing data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6 (3):16:1–16:26, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380972>.
- [EEP16] Christodoulos Efstathiades, Alexandros Efentakis, and Dieter Pfoser. Efficient processing of relevant nearest-neighbor queries. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2 (3):9:1–9:28, October 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2934675>.
- [EFP20] Ioannis Z. Emiris and Ioannis Psarros. Products of Euclidean metrics, applied to proximity problems among curves: Unified treatment of discrete Fréchet and dynamic time warping distances. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6 (4):27:1–27:20, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3397518>.
- [FAMF16] Chaulio R. Ferreira, Marcus V. A. Andrade, Salles V. G. Magalhães, and W. Randolph Franklin. An efficient external memory algorithm for terrain viewshed computation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2 (1):2:1–2:25, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3402125>.
- [DeBock:2021:SDD] Jelle De Bock and Steven Verstockt. SmarterROUTES — a data-driven context-aware solution for personalized dynamic routing and navigation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7 (1):2:1–2:25, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3402125>.
- [Ferreira:2016:EEM] Chaulio R. Ferreira, Marcus V. A. Andrade, Salles V. G. Magalhães, and W. Randolph Franklin. An efficient external memory algorithm for terrain viewshed computation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2 (1):2:1–2:25, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3402125>.

(2):6:1–6:17, July 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2903206>.

Fellegara:2020:TTF

- [FDMW20] Riccardo Fellegara, Leila De Floriani, Paola Magillo, and Kenneth Weiss. Tetrahedral trees: a family of hierarchical spatial indexes for tetrahedral meshes. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):23:1–23:34, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3385851>.

Fujino:2018:DDI

- [FHK⁺18] Takumi Fujino, Atsushi Hashimoto, Hidekazu Kasahara, Mikihiro Mori, Masaaki Iiyama, and Michihiko Minoh. Detecting deviations from intended routes using vehicular GPS tracks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(1):1:1–1:??, June 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3204455>.

Ferreira:2020:DLA

- [FNCO20] Danielle L. Ferreira, Bruno A. A. Nunes, Carlos Alberto V. Campos, and Katia Obraczka. A deep learning approach for identifying user communities based on geographical preferences and its applications to urban and environmental planning. *ACM*

Transactions on Spatial Algorithms and Systems (TSAS), 6(3):17:1–17:24, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380970>.

Ghinita:2016:PAV

- [GDSB16] Gabriel Ghinita, Maria Luisa Damiani, Claudio Silvestri, and Elisa Bertino. Protecting against velocity-based, proximity-based, and external event attacks in location-centric social networks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(2):8:1–8:36, July 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2910580>.

Gemsa:2015:MBL

- [GHN15] Andreas Gemsa, Jan-Henrik Haunert, and Martin Nöllenburg. Multirow boundary-labeling algorithms for panorama images. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(1):1:1–1:30, August 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2794299>.

Gudmundsson:2021:PIS

- [GHPS21] Joachim Gudmundsson, Michael Horton, John Pfeifer, and Martin P. Seybold. A practical index structure supporting Fréchet proximity queries among trajectories. *ACM Transactions on Spatial Algorithms*

- and Systems (TSAS)*, 7(3):15:1–15:33, September 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3460121>.
- [GKR16] Preeti Goel, Lars Kulik, and Kotagiri Ramamohanarao. Privacy-aware dynamic ride sharing. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(1):4:1–4:41, April 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2845080>.
- [Gol19] Sreenivas Gollapudi. Introduction to the special issue on urban mobility: Algorithms and systems. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):7:1–7:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3346023>.
- [GVD15] Ralf Hartmut Güting, Fabio Valdés, and Maria Luisa Damiani. Symbolic trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(2):7:1–7:51, November 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2786756>.
- [HBH⁺21] Eric He, Fan Bai, Curtis Hay, Jinzhu Chen, and Vijayakumar Bhagavatula. A map inference approach using signal processing from crowd-sourced GPS data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(2):9:1–9:23, February 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3431785>.
- [HHR20] Xiaohui Huang, Pan He, Anand Rangarajan, and Sanjay Ranka. Intelligent intersection: Two-stream convolutional networks for real-time near-accident detection in traffic video. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):10:1–10:28, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3373647>.
- [HKK⁺19] Samuli Hemminki, Keisuke Kuribayashi, Shin’ichi Konomi, Peteri Nurmi, and Sasu Tarkoma. Crowd replication: Sensing-assisted quantification of human behavior in public spaces. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(3):15:1–15:??, September 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3317666>.

He:2021:MIA

Goel:2016:PAD

Huang:2020:IIT

Gollapudi:2019:ISI

Hemminki:2019:CRS

Guting:2015:ST

- [HUY16] **Hung:2016:SIA**
 Hui-Ju Hung, De-Nian Yang, and Wang-Chien Lee. Social influence-aware reverse nearest neighbor search. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(3):12:1–12:35, October 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2964906>.
- [ISNU17] **Iwata:2017:EPF**
 Tomoharu Iwata, Hitoshi Shimizu, Futoshi Naya, and Naonori Ueda. Estimating people flow from spatiotemporal population data via collective graphical mixture models. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(1):2:1–2:18, May 2017. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=3080555>.
- [JS19] **Jagadeesh:2019:FCC**
 George R. Jagadeesh and Thambipillai Srikanthan. Fast computation of clustered many-to-many shortest paths and its application to map matching. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(3):17:1–17:??, September 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3329676>.
- [JSL⁺20] **Jauhri:2020:GRR**
 Abhinav Jauhri, Brad Stocks, Jian Hui Li, Koichi Yamada, and John Paul Shen. Generating realistic ride-hailing datasets using GANs. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):18:1–18:14, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380968>.
- [KKT⁺18] **Khan:2018:ECO**
 A. K. M. Mustafizur Rahman Khan, Lars Kulik, Egemen Tanin, Hua Hua, and Tanzima Hashem. Efficient computation of the optimal accessible location for a group of mobile agents. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(4):10:1–10:??, October 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3239124>.
- [KPS17] **Karagiorgou:2017:LAM**
 Sophia Karagiorgou, Dieter Pfoser, and Dimitrios Skoutas. A layered approach for more robust generation of road network maps from vehicle tracking data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(1):3:1–3:21, May 2017. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=3061713>.
- [KS15] **Kovanen:2015:TAC**
 Janne Kovanen and Tapani Sarjakoski. Tilewise accumulated cost surface computation with graphics processing units. *ACM*

Transactions on Spatial Algorithms and Systems (TSAS), 1(2):8:1–8:27, November 2015. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2803172>.

Kannangara:2019:SSG

- [KTHK19] Sameera Kannangara, Egemem Tanin, Aaron Harwood, and Shanika Karunasekera. Stepping stone graph: A graph for finding movement corridors using sparse trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(4):23:1–23:??, December 2019. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3324883>.

Koide:2018:EIQ

- [KTY+18] Satoshi Koide, Yukihiro Tadokoro, Takayoshi Yoshimura, Chuan Xiao, and Yoshiharu Ishikawa. Enhanced indexing and querying of trajectories in road networks via string algorithms. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(1):3:1–3:??, June 2018. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3200200>.

Lowe:2019:FRA

- [LA19] Aaron Lowe and Pankaj K. Agarwal. Flood-risk analysis on terrains under the multiflow-direction model. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(4):26:1–26:??,

December 2019. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3340707>.

Li:2020:TGF

- [LCKQ20] Wei Li, Haiquan Chen, Wei-Shinn Ku, and Xiao Qin. Turbo-GTS: a fast framework of optimizing task throughput for large-scale mobile crowdsourcing. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):1:1–1:29, February 2020. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3363450>.

Li:2019:PTT

- [LGLG19] Yang Li, Dimitrios Gunopoulos, Cewu Lu, and Leonidas J. Guibas. Personalized travel time prediction using a small number of probe vehicles. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):4:1–4:??, June 2019. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3317663>.

Long:2017:SPB

- [LH17] Yuan Long and Xiaolin Hu. Spatial partition-based particle filtering for data assimilation in wildfire spread simulation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(2):5:1–5:??, August 2017. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3099471>.

Laoudias:2021:IQP

- [LNK⁺21] Christos Laoudias, Artyom Nikitin, Panagiotis Karras, Moustafa Youssef, and Demetrios Zeinalipour-Yazti. Indoor quality-of-position visual assessment using crowd-sourced fingerprint maps. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(2):10:1–10:32, February 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3433026>.

Li:2020:CPM

- [LZLL20] Qingzhe Li, Liang Zhao, Yi-Ching Lee, and Jessica Lin. Contrast pattern mining in paired multivariate time series of a controlled driving behavior experiment. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):25:1–25:28, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3397272>.

Mahmood:2018:DBI

- [MAK⁺18] Ahmed R. Mahmood, Ahmed M. Aly, Tatiana Kuznetsova, Saleh Basalamah, and Walid G. Aref. Disk-based indexing of recent trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(3):7:1–7:??, September 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3234941>.

Mckennney:2015:GMR

- Mark Mckennney and Roger Frye. Generating moving regions from snapshots of complex regions. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(1):4:1–4:30, August 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2774220>.

Mahin:2019:AAR

- [MH19] Mehnaz Tabassum Mahin and Tanzima Hashem. Activity-aware ridesharing group trip planning queries for flexible POIs. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(3):20:1–20:??, September 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3341818>.

Mariescu-Istodor:2021:VDC

- [MICNC21] Radu Mariescu-Istodor, Alexandru Cristian, Mihai Negrea, and Peiwei Cao. VRPDiv: a divide and conquer framework for large vehicle routing problems. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):23:1–23:41, December 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3474832>.

Mariescu-Istodor:2017:GBM

- [MIF17] Radu Mariescu-Istodor and Pasi Fränti. Grid-based method for GPS route analysis for retrieval.

- ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(3):8:1–8:??, November 2017. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3125634>.
- Mariescu-Istodor:2018:CIR**
- [MIF18] Radu Mariescu-Istodor and Pasi Fränti. CellNet: Inferring road networks from GPS trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(3):8:1–8:??, September 2018. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3234692>.
- Mishra:2020:TSP**
- [MKW20] Suman Mishra, Lina Kattan, and S. C. Wirasinghe. Transit signal priority along a signalized arterial: a passenger-based approach. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):5:1–5:19, February 2020. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3355611>.
- Middya:2021:SIT**
- [MR21] Asif Iqbal Middya and Sarbani Roy. Spatial interpolation techniques on participatory sensing data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(3):13:1–13:32, September 2021. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3457609>.
- Naghizade:2020:PCA**
- [NKTB20] Elham Naghizade, Lars Kulik, Egemen Tanin, and James Bailey. Privacy- and context-aware release of trajectory data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):3:1–3:25, February 2020. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3363449>.
- Niu:2016:LED**
- [NLC16] Wei Niu, Zhijiao Liu, and James Caverlee. On local expert discovery via geo-located crowds, queries, and candidates. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(4):14:1–14:24, November 2016. CODEN ????. ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2994599>.
- Nur:2018:GRI**
- [NT18] Abdullah Yasin Nur and Mehmet Engin Tozal. Geography and routing in the Internet. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(4):11:1–11:??, October 2018. CODEN ????. ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3239162>.
- Pillai:2016:MMT**
- [PAB⁺16] Karthik Ganesan Pillai, Rafal A. Angryk, Juan M. Banda, Dustin Kempton, Berkay Aydin, and Petrus C. Martens. Mining

- at most top- K % spatiotemporal co-occurrence patterns in datasets with extended spatial representations. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(3):10:1–10:27, October 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2936775>.
- [PBGA19] Mirjana Pavlovic, Kai-Niklas Bastian, Hinnerk Gildhoff, and Anastasia Ailamaki. Dictionary compression in point cloud data management. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):3:1–3:??, June 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3299770>.
- [Pet21] Matthew A. Petroff. A square equal-area map projection with low angular distortion, minimal cusps, and closed-form solutions. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):21:1–21:16, December 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3460521>.
- [PK16] Sanjay Purushotham and C.-C. Jay Kuo. Personalized group recommender systems for location- and event-based social networks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(4):16:1–16:29, November 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2987381>.
- [PLHC19] Davide Pietrobon, Andrew P. Lewis, and Gavin S. Heverly-Coulson. An algorithm for road closure detection from vehicle probe data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):12:1–12:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325912>.
- [PSD+21] Alberto Paoluzzi, Vadim Shapiro, Antonio Dicarolo, Francesco Furi-ani, Giulio Martella, and Giorgio Scorzelli. Topological computing of arrangements with (co)chains. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(1):1:1–1:29, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3401988>.
- [PSTT16] Nikos Pelekis, Stylianos Sideridis, Panagiotis Tampakis, and Yannis Theodoridis. Simulating our LifeSteps by example. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(3):11:1–11:39, October 2016.

Pavlovic:2019:DCP

Pietrobon:2019:ARC

Petroff:2021:SEA

Paoluzzi:2021:TCA

Purushotham:2016:PGR

Pelekis:2016:SOL

CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2937753>.

Peng:2021:FOS

- [PWH21] Dongliang Peng, Alexander Wolff, and Jan-Henrik Haunert. Finding optimal sequences for area aggregation — A^* vs. integer linear programming. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(1):4:1–4:40, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3409290>.

Qian:2020:UOD

- [QKZU20] Xinwu Qian, Dheeraj Kumar, Wenbo Zhang, and Satish V. Ukkusuri. Understanding the operational dynamics of mobility service providers: a case of Uber. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):12:1–12:20, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3378888>.

Rayhan:2019:ESG

- [RHJC19] Yeasir Rayhan, Tanzima Hashem, Roksana Jahan, and Muhammad Aamir Cheema. Efficient scheduling of generalized group trips in road networks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):10:1–10:??, August 2019. CODEN ???? ISSN 2374-

0353. URL <https://dl.acm.org/citation.cfm?id=3325915>.

Rav:2019:FRA

- [RLA19] Mathias Rav, Aaron Lowe, and Pankaj K. Agarwal. Flood risk analysis on terrains. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):2:1–2:??, June 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3295459>.

Robles-Ortega:2017:EVD

- [ROOF17] M. D. Robles-Ortega, L. Ortega, and F. R. Feito. Efficient visibility determination in urban scenes considering terrain information. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(3):10:1–10:??, November 2017. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3152536>.

Smolyak:2020:CIG

- [SGBM20] Daniel Smolyak, Kathryn Gray, Sarkhan Badirli, and George Mohler. Coupled IGMM-GANs with applications to anomaly detection in human mobility data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):24:1–24:14, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3385809>.

Steininger:2020:MEN

- [SKZ⁺20] Michael Steininger, Konstantin Kobs, Albin Zehe, Florian Lautenschlager, Martin Becker, and

- Andreas Hotho. MapLUR: Exploring a new paradigm for estimating air pollution using deep learning on map images. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):19:1–19:24, May 2020. CODEN ????? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380973>.
- [SMM19] Ibrahim Sabek, Mashaal Musleh, and Mohamed F. Mokbel. RegRocket: Scalable multinomial autologistic regression with unordered categorical variables using Markov logic networks. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(4):27:1–27:??, December 2019. CODEN ????? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3366459>.
- [SOdB⁺20] Roberto C. S. N. P. Souza, Derrick M. Oliveira, Denise E. F. de Brito, Renato M. Assunção, and Wagner Meira Jr. Space-time drift point detection in mobility patterns. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):4:1–4:24, February 2020. CODEN ????? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3360721>.
- [SPKS16] Georgios Skoumas, Dieter Pfoser, Anastasios Kyriillidis, and Timos Sellis. Location estimation using crowdsourced spatial relations. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(2):5:1–5:23, July 2016. CODEN ????? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2894745>.
- [SSTN19] Jun Suzuki, Yoshihiko Suhara, Hiroyuki Toda, and Kyosuke Nishida. Personalized visited-POI assignment to individual raw GPS trajectories. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(3):16:1–16:??, September 2019. CODEN ????? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3317667>.
- [STZ⁺20] Wei Shao, Siyu Tan, Sichen Zhao, Kyle Kai Qin, Xinhong Hei, Jeffrey Chan, and Flora D. Salim. Incorporating LSTM auto-encoders in optimizations to

Sabek:2019:RSM

[SS21]

Sun:2021:RTE

Souza:2020:STD

[SSTN19]

Suzuki:2019:PVP

Shao:2020:ILA

- solve parking officer patrolling problem. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):20:1–20:21, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380966>.
- Tampakis:2020:DSJ**
- [TDPT20] Panagiotis Tampakis, Christos Doukeridis, Nikos Pelekis, and Yannis Theodoridis. Distributed subtrajectory join on massive datasets. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):8:1–8:29, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3373642>.
- Toll:2018:MAM**
- [TIKG18] Wouter Van Toll, Atlas F. Cook Iv, Marc J. Van Kreveld, and Roland Geraerts. The medial axis of a multi-layered environment and its application as a navigation mesh. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(1):2:1–2:??, June 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3204456>.
- Teng:2017:TMS**
- [TKC17] Shan-Yun Teng, Wei-Shinn Ku, and Kun-Ta Chuang. Toward mining stop-by behaviors in indoor space. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 3(2):7:1–7:??, August 2017. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3106736>.
- Touya:2020:DLE**
- [TL20] Guillaume Touya and Imran Lokhat. Deep learning for enrichment of vector spatial databases: Application to highway interchange. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):21:1–21:21, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3382080>.
- Tokuda:2020:NAP**
- [TLF+20] Eric K. Tokuda, Yitzchak Lockerman, Gabriel B. A. Ferreira, Ethan Sorrelgreen, David Boyle, Roberto M. Cesar, Jr., and Claudio T. Silva. A new approach for pedestrian density estimation using moving sensors and computer vision. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):26:1–26:20, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3397575>.
- That:2015:TGT**
- [TPZ15] Dai Hai Ton That, Iulian Sandu Popa, and Karine Zeitouni. TRIFL: A generic trajectory index for flash storage. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(2):6:1–6:44, November 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (elec-

- tronic). URL <http://dl.acm.org/citation.cfm?id=2786758>. **Vollmer:2018:HSA**
- [TSK15] Hien To, Cyrus Shahabi, and Leyla Kazemi. A server-assigned spatial crowdsourcing framework. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(1):2:1–2:28, August 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2729713>. **To:2015:SAS**
- [TYZO15] Suhua Tang, Yi Yu, Roger Zimmermann, and Sadao Obana. Efficient geo-fencing via hybrid hashing: A combination of bucket selection and in-bucket binary search. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 1(2):5:1–5:22, November 2015. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2774219>. **Tang:2015:EGF**
- [VTSD18] Jan Ole Vollmer, Matthias Trapp, Heidrun Schumann, and Jürgen Döllner. Hierarchical spatial aggregation for level-of-detail visualization of 3D thematic data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(3):9:1–9:??, September 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3234506>. **Wang:2020:SGS**
- [WCC⁺20] Senzhang Wang, Jiannong Cao, Hao Chen, Hao Peng, and Zhiqiu Huang. SeqST-GAN: Seq2Seq generative adversarial nets for multi-step urban crowd flow prediction. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(4):22:1–22:24, August 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://doi.org/10.1145/3378889>. **Wang:2020:TTG**
- [VBME21] Tin Vu, Alberto Belussi, Sara Migliorini, and Ahmed Eldway. Using deep learning for big spatial data partitioning. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(1):3:1–3:37, January 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3402126>. **Vu:2021:UDL**
- [WCM20] Lijing Wang, Jiangzhuo Chen, and Madhav Marathe. TDEFSI: Theory-guided deep learning-based epidemic forecasting with synthetic information. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):15:1–15:39, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3380971>. **Wang:2020:TTG**

- Werner:2021:GAE**
- [Wer21] Martin Werner. GloBiMap-sAI: an AI-enhanced probabilistic data structure for global raster datasets. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(4):18:1–18:24, June 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3453184>.
- Wang:2018:VMF**
- [WK18] Nana Wang and Mohan Kankanhalli. 2D vector map fragile watermarking with region location. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 4(4):12:1–12:??, October 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3239163>.
- Wang:2019:ADR**
- [WLL⁺19] Haiquan Wang, Yilin Li, Guoping Liu, Xiang Wen, and Xiaohu Qie. Accurate detection of road network anomaly by understanding crowd’s driving strategies from human mobility. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(2):11:1–11:??, August 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325913>.
- Whitman:2019:DSS**
- [WMPH19] Randall T. Whitman, Bryan G. Marsh, Michael B. Park, and Erik G. Hoel. Distributed spatial and spatio-temporal join on Apache spark. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(1):6:1–6:??, June 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3325135>.
- Youssef:2020:ISI**
- [YKC20] Moustafa Youssef, John Krum, and Muhammad Aamir Cheema. Introduction to the special issue on deep learning for spatial algorithms and systems. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(3):14:1–14:2, May 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3386878>.
- Yang:2020:SFB**
- [YÖR20] Dongfang Yang, Ümit Özgüner, and Keith Redmill. A social force based pedestrian motion model considering multi-pedestrian interaction with a vehicle. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):11:1–11:27, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3373646>.
- Yin:2018:FBM**
- [YSWZ18] Yifang Yin, Rajiv Ratn Shah, Guanfeng Wang, and Roger Zimmermann. Feature-based map matching for low-sampling-rate GPS trajectories. *ACM Transactions on Spatial Algorithms*

and Systems (TSAS), 4(2):4:1–4:??, August 2018. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3223049>.

Zhao:2016:OSE

- [ZCLR16] Liang Zhao, Feng Chen, Chang-Tien Lu, and Naren Ramakrishnan. Online spatial event forecasting in microblogs. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 2(4):15:1–15:39, November 2016. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <http://dl.acm.org/citation.cfm?id=2997642>.

Zhao:2019:SAR

- [ZGP19] Liang Zhao, Olga Gkountouna, and Dieter Pfoser. Spatial auto-regressive dependency interpretable learning based on spatial topological constraints. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 5(3):19:1–19:??, September 2019. CODEN ???? ISSN 2374-0353. URL <https://dl.acm.org/citation.cfm?id=3339823>.

Zhang:2021:ADI

- [ZSBA21] Xiaowei Zhang, Aly Shehata, Bedrich Benes, and Daniel Aliaga. Automatic deep inference of procedural cities from global-scale spatial data. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(2):6:1–6:28, February 2021. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic).

URL <https://dl.acm.org/doi/10.1145/3423422>.

Zhang:2020:DPS

- [ZSFB20] Rui Zhang, Kevin G. Stanley, Daniel Fuller, and Scott Bell. Differentiating population spatial behavior using representative features of geospatial mobility (ReFGem). *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(1):2:1–2:25, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/abs/10.1145/3362063>.

Zhou:2020:SST

- [ZWT+20] Fan Zhou, Hantao Wu, Goce Trajcevski, Ashfaq Khokhar, and Kunpeng Zhang. Semi-supervised trajectory understanding with POI attention for end-to-end trip recommendation. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 6(2):13:1–13:25, February 2020. CODEN ???? ISSN 2374-0353 (print), 2374-0361 (electronic). URL <https://dl.acm.org/doi/10.1145/3378890>.

Zhu:2021:PCK

- [ZYW+21] Huaijie Zhu, Xiaochun Yang, Bin Wang, Wang-Chien Lee, Jian Yin, and Jianliang Xu. Processing continuous k nearest neighbor queries in obstructed space with Voronoi diagrams. *ACM Transactions on Spatial Algorithms and Systems (TSAS)*, 7(2):8:1–8:27, February 2021. CODEN ???? ISSN 2374-0353

(print), 2374-0361 (electronic).
URL <https://dl.acm.org/doi/10.1145/3425955>.