

CONTACT
INFORMATION

Associate Professor
 Division of Geoinformatics
 Department of Urban Planning and Environment
 ITRL Integrated Transport Research Lab
 KTH Royal Institute of Technology
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EDUCATION

Aalborg University, Aalborg, Denmark

Ph.D., Computer Science (Database and Programming Technologies), 2008

- Thesis Topic: Spatio-Temporal Data Mining for Location-Based Services
- Adviser: Professor Torben Bach Pedersen
- Area of Study: Data Mining, Databases

University of California, San Diego, San Diego, CA

M.S., Computer Science and Engineering, 2002 GPA: 3.80 (4.0 scale)

- Thesis Topic: Financial Text Mining
- Adviser: Professor Charles Elkan
- Area of Study: Artificial Intelligence

San Diego State University, San Diego, CA

B.S., Computer Science, 2000 GPA: 3.86 (4.0 scale)

- Summa Cum Laude
- Thesis Topic: Collision Avoidance for Pioneer 2 Mobile Robots
- Adviser: Dr. Mahmoud Tarokh
- Area of Study: Robotics and Artificial Intelligence

CURRENT AND
PREVIOUS
EMPLOYMENTS**KTH Royal Institute of Technology, Integrated Transport Research Lab (ITRL)**, Stockholm, Sweden

Research Program Leader: Urban Goods Distribution (50%) **2019 to present**

- Responsible for leading the Urban Goods Distribution research program of ITRL.
- Define and form research program road map.
- Define and obtain funding for research projects by utilizing university-wide transport research competences.
- Conduct research within the research program.

Research Area Leader: Efficient Transport Concepts (50%) **2017 to 2019**

- Responsible for leading the Efficient Transport Concepts research area of ITRL.
- Define and form research area road map.
- Define and obtain funding for research projects by utilizing university-wide transport research competences.
- Conduct research within the research area.

KTH Royal Institute of Technology, Department of Urban Planning and Environment, Division of Geoinformatics, Stockholm, Sweden

Associate Professor (50% since 2017) **2015 to present**

- Responsible for three topics within Geoinformatics: Spatial Database, Spatial Analysis, and Web and Mobile GIS.
- Independently initiate and pursue research of high scientific quality.
- Attract external research funding and disseminate research results.
- Supervise Master and PhD students.
- Responsible for international Master courses as in previous post.
- Administration.

Assistant Professor (Tenure Track) **2010 to 2014**

- Responsible for three topics within Geoinformatics: Spatial Database, Web GIS and Mobile GIS.
- Independently initiate and pursue research of high scientific quality.
- Attract external research funding and disseminate research results.
- Supervise Master students.
- Responsible for international Master courses: AG2414 - Spatial Analysis (since 2011 annually), AG2425 - Spatial Databases (since 2010 annually), AG2415 - Web GIS (2010, 2011, 2012), AG2426 - Mobile GIS (2010, 2012), AG2417 - Web and Mobile GIS (since 2012 annually), and AG2421 - A GIS Project (2010).
- Administration.

Uppsala University, Dept. of Information Technology (UDBL), Uppsala, Sweden

Postdoctoral Researcher / Research Associate **2008 to 2010**

- iStreams: Searching and Analyzing On-line High Volume Industrial Streams
- Supervisor (PI): Professor Tore Risch
- Develop methods and tools for analyzing and mining high volume industrial data streams.
- Supervise Master students.
- Course assistant for: 1DL018 - Electronic Commerce and Security(2x), 1DL029 - Database Design (1x) and 1DL105 - Data Mining (2x).
 - Prepare and grade lab / programming assignments and exams, maintain course homepage, present tutorials in lectures, hold office hours, supervise group projects, and develop future course structure and content.

Aalborg University, Dept. of Computer Science (DPT), Aalborg, Denmark

Research Assistant **2008**

- Supervisor: Professor Torben Bach Pedersen
- Develop methods and systems for shared transportation services.

Geomatic ApS - Center for Geoinformatic, Copenhagen, Denmark

Industrial Ph.D. Student / Data Miner **2004 to 2008**

- Spatio-temporal data mining for location-based services: 1) extend popular data mining methods to the spatio-temporal domain, 2) demonstrate the usefulness of the extended methods and the derived knowledge in promising LBS examples, and 3) eliminate privacy concerns in connection with spatio-temporal data mining by devising systems for privacy-preserving location data collection and mining.
- Design, optimize and automate ETL and data analysis processes, design and implement spatial clustering of large multi-dimensional data sets, and perform various geo-demographic analysis tasks.

UC San Diego, Dept. of Computer Science and Engineering (AI) San Diego, CAResearch Assistant**2002 to 2003**

- Supervisor: Professor Charles Elkan
- Mining and analysis of financial text and time series.

System Design Group (SDG) Inc., San Diego, CATesting Intern**1998 to 1999**

- Design, implement, and use scripts to test flash memory products.

Imaging Technologies Corporation (ITEC) Inc., San Diego, CATesting Intern**1996 to 1997**

- Design, implement, and use scripts to test PostScript printers and MFPs.

PUBLICATIONS

G. Gidófalvi has an h-index of 14 and has 53 publications and 12 submissions / working papers on topics such as travel survey methods, travel behavior modeling, traffic management, transport infrastructure planning and optimization, spatio-temporal, mobility and movement data mining and prediction, geostream processing, web and mobile GIS, and big data processing.

- Peer reviewed journal articles [9]
- Peer reviewed conference contributions [35]
- Non peer reviewed conference contributions [3]
- Books or chapter contributions [2]
- Reports [2]
- Other publications (including conference and journal paper publications in submission / under revision) [12]

PEER REVIEWED
JOURNAL
ARTICLES

- [1] A. C. Prelipcean, G. Gidófalvi and Y. O. Susilo. MEILI: an activity travel diary collection, annotation and automation system. *Computers, Environment and Urban Systems*, 70:24-34, DOI: 10.1016/j.compenvurbsys.2018.01.011, 2018.
- [2] C. Yang and G. Gidófalvi. Fast map matching, an algorithm integrating hidden Markov model with precomputation. *International Journal of Geographical Information Science*, 31(3):547-5790, DOI: 10.1080/13658816.2017.1400548, 2017.
- [3] C. Yang and G. Gidófalvi. Mining and visual exploration of closed contiguous sequential patterns in trajectories. *International Journal of Geographical Information Science*, 24p., DOI: 10.1080/13658816.2017.1393542, 2017.
- [4] A. C. Prelipcean, G. Gidófalvi, and Y. O. Susilo. Transportation mode detection – an in-depth review of applicability and reliability. *Transport Reviews*, 37(4):442-464, DOI: 10.1080/01441647.2016.1246489, 2016.
- [5] A. C. Prelipcean, G. Gidófalvi, and Y. O. Susilo. Measures of transport mode segmentation of trajectories. *International Journal of Geographical Information Science*, 21p., DOI: 10.1080/13658816.2015.1137297, 2016.
- [6] A. C. Prelipcean, Gidófalvi, and Y. O. Susilo. Mobility Collector. *Journal of Location Based Services*, 8(4):229-255, DOI: 10.1080/17489725.2014.973917, 2014.
- [7] G. Gidófalvi and T. Bach Pedersen. Mining Long, Sharable Patterns in Trajectories of Moving Objects. *Geoinformatica*, 13(1):27-55, ISSN: 1384-6175, 2009.

- [8] G. Gidófalvi, H. R. Larsen and T. Bach Pedersen. Estimating the Capacity of the Location-Based Advertising Channel. *International Journal of Mobile Communications*, 6(3):357-375, ISSN: 1470-949X, 2008.
- [9] E. B. Cleff and G. Gidófalvi. The Legal Aspects of a Location-Based Mobile Advertising Platform. *International Journal of Intellectual Property Management*, 2(3):261-275, ISSN: 1478-9647, 2008.
- PEER REVIEWED [10] G. Gidófalvi and C. Yang. Delivery Route Based ERS Network Optimization. Proc. of 3rd Electric Road Systems Conference 2019, 6p., 2019.
- CONFERENCE [11] S. P. Cumbane, C. Yang and G. Gidófalvi. A framework for traffic prediction integrated with deep learning. Proc. of 8th Symposium of the European Association for Research in Transportation (hEART 2019), 5p., 2019.
- CONTRIBUTIONS [12] C. Yang and G. Gidófalvi. Trajectory quality assessment based on movement feature stability. Proc. of ICA Commission on Location Based Services - International Symposium on Location-Based Big Data 2019 (LocBigData 2019), 5p. 2019.
- [13] N. M. Viljoen, J. W. Joubert, G. Gidófalvi and B. Kordnejad. A matching algorithm to study evolution of logistics facilities extracted from GPS traces. Proc. of City Logistics Conference 2019, 9p., 2019.
- [14] A. Pernestål, A. Engholm, G. Gidófalvi, M. Bemler and J. Eriksson. Will digitalization change freight transport? Future scenarios for the digitized freight transport landscape with Sweden as a case study. Proc. of European Transport Conference 2019, 2p., 2019.
- [15] R. C. O. Palmberg, Y. O., Susilo and G. Gidófalvi. Uncovering Effects of Spatial and Transportation Elements on Travellers Using Biometric Data. Proc. of Network on European Communications and Transport Activity Research (NECTAR) Conference 2019, 2p., 2019.
- [16] C. Yang and G. Gidófalvi. Comparative mining and clustering of temporal route visit profiles. Proc. of GIScience Workshop on Analysis of Movement Data (AMD2018), 6p., 2018.
- [17] G. Gidófalvi. Proposal for capturing, quantifying and relating motion and movement based collective animal behavior to dynamic environmental variables: the case of reindeer and wind turbine operations. Proc. of GIScience Workshop on Analysis of Movement Data (AMD2018), 6p., 2018.
- [18] C. Yang and G. Gidófalvi. Classification of regional dominant movement patterns in trajectories with a convolutional neural network. Proc of GIScience Workshop on Spatial big data and machine learning, 5p., 2018.
- [19] A. C. Prelipcean, Y. O. Susilo and G. Gidófalvi. Future directions of research for automatic travel diary collection.
- [20] Proc. of 11th International conference on Transport Survey Methods, (ISCTSC), 12p. 2017.
- [21] A. C. Prelipcean, Y. Susilo and Gidófalvi. Detecting and visualizing the stability of activity chains with longest common purpose subsequences. Proc. of Association of American Geographers 2017 Meeting, 2017.
- [22] A. C. Prelipcean, G. Gidófalvi and Y. O. Susilo. A series of three case studies on the semi-automation of activity travel diary generation using smartphones. Proc. of TRB 2017 Annual Meeting, 16p., 2017.

- [23] C. Yang and G. Gidófalvi. Interactive Visual Exploration of Most Likely Movements. Proc. of Visually-supported Computational Movement Analysis (VCMA 2016), 7p., 2016.
- [24] Y. O. Susilo, A. C. Prelipcean, G. Gidófalvi, A. Allström, I. Kristoffersson, and J. Widell. Lessons from a trial of MEILI, a smartphone based semi-automatic activity-travel diary collector, in Stockholm city, Sweden. Proc. of the World Conference on Transport Research (WCTR 2016), 18p., 2016.
- [25] G. Gidófalvi and C. Yang. Scalable Detection of Traffic Congestion from Massive Floating Car Data Streams. Proc. of the 1st International ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics (UrbanGIS 2015) - ACM SIGSPATIAL GIS 2015 Conference, 8p., 2015.
- [26] G. Gidófalvi. Scalable Selective Traffic Congestion Notification. Proc. of the 4th ACM SIGSPATIAL International Workshop on Mobile Geographic Information Systems (MobiGIS 2015) - ACM SIGSPATIAL GIS 2015 Conference, 10p., 2015.
- [27] A. C. Prelipcean, G. Gidófalvi, and Y. O. Susilo. Comparative Framework for Activity-Travel Diary Collection Systems. Proc. of the 2015 International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS), pp. 251–258, 2015.
- [28] A. Bachmann, C. Borgelt, and G. Gidófalvi. Incremental Frequent Route Based Trajectory Prediction. Proc. of the 6th ACM SIGSPATIAL International Workshop on Computational Transportation Science (IWCTS 2013) - ACM SIGSPATIAL GIS 2013 Conference, pp. 49-54, 2013.
- [29] Z. Yuan, Y. Jiang, and G. Gidófalvi. Geographical and Temporal Similarity Measurement on Location-based Social Networks. Proc. of the Second ACM SIGSPATIAL International Workshop on Mobile Geographical Information Systems (MobiGIS 2013) - ACM SIGSPATIAL GIS 2013 Conference, pp. 30-34, 2013.
- [30] A. C. Prelipcean and G. Gidófalvi. Mobility Collector: Battery Conscious Mobile Tracking. Proc. of Mobile Ghent'13, 2p., 2013.
- [31] R. Zhu and G. Gidófalvi. GPS-based Crowd Sourced Intelligent Traffic Information Hub. Proc. of the 26th International Cartographic Conference, 2013.
- [32] A. Sidahmed and G. Gidófalvi. A MapReduce-Based Multiple Flow Direction Runoff Simulation. Proc. of the 12th International Conference on GeoComputation, 2013.
- [33] G. Gidófalvi and F. Dong. When And Where Next: Individual Mobility Prediction. Proc. of the First ACM SIGSPATIAL International Workshop on Mobile Geographical Information Systems (MobiGIS 2012) - ACM SIGSPATIAL GIS 2012 Conference, pp. 1-8, 2012.
- [34] G. Gidófalvi, M. Kaul, C. Borgelt and T. Bach Pedersen. Frequent Route Based Continuous Moving Object Location- and Density Prediction on Road Networks. Proc. of the 19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM-GIS'11), pp. 381-384, 2011.
- [35] G. Gidófalvi and E. Saqib. From Trajectories of Moving Objects to Route-Based Traffic Prediction and Management. Proc. of the Workshop on Movement Pattern Analysis (MPA'10) - GIScience 2010 Conference, pp. 132-135, 2010.

- [36] G. Gidófalvi and E. Saqib. Using Trajectories of Moving Objects in Traffic Prediction and Management. Proc. of Workshop on Movement Pattern Analysis (MPA'10) - GIScience 2010 Conference, 6p., 2010.
- [37] G. Gidófalvi, X. Huang and T. Bach Pedersen. Privacy-Preserving Trajectory Collection. Proc. of the ACM International Symposium on Advances in Geographic Information Systems (ACM-GIS'08), pp. 387-390, 2008.
- [38] G. Gidófalvi, T. Bach Pedersen, T. Risch and E. Zeitler. Highly Scalable Trip Grouping for Large-Scale Collective Transportation Systems. Proc. of the 11th International Conference on Extending Database Technology (EDBT 2008), pp. 678-689, 2008.
- [39] G. Gidófalvi, G. Herényi and T. Bach Pedersen. Instant Social Ride-Sharing. Proc. of the Fifteenth World Congress on Intelligent Transport Systems, 8p. 2008.
- [40] G. Gidófalvi and T. Bach Pedersen. Cab-sharing - An Effective, Door-to-Door, On-Demand Transportation Service. Proc. of the 6th European Congress on Intelligent Transport Systems and Services, 8p., 2007.
- [41] G. Gidófalvi, H. R. Larsen and T. Bach Pedersen. Estimating the Capacity of the Location-Based Advertising Channel. Proc. of the 6th International Conference on the Management of Mobile Business (ICMB 2007), 8p, 2007.
- [42] G. Gidófalvi, X. Huang and T. Bach Pedersen. Privacy-Preserving Data Mining on Moving Object Trajectories. Proc. of IEEE International Conference on Mobile Data Management (MDM'07), pp. 60-68, 2007.
- [43] G. Gidófalvi and Torben Bach Pedersen. Mining Long, Sharable Patterns in Trajectories of Moving Objects. Proc. of the Third Workshop on Spatio-Temporal Database Management (STDBM'06), pp. 49-58, 2006.
- [44] G. Gidófalvi and T. Bach Pedersen. ST-ACTS - A Spatio-Temporal Activity Simulator. Proc. of the 14th annual ACM international symposium on Advances in geographic information systems (GIS'06), pp. 155-162, 2006.
- [45] G. Gidófalvi and T. Bach Pedersen. Spatio-Temporal Rule Mining - Issues and Techniques. Proc. of the 7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2005), pp. 275-284, 2005.
- [46] G. Gidófalvi and E. Saqib. Developing a Benchmark for Using Trajectories of Moving Objects in Traffic Prediction and Management. Proc. of Workshop on Movement Pattern Analysis (MPA'10) - GIScience 2010 Conference, 2p., 2010.
- [47] G. Gidófalvi. A Mobile Consumer Analysis Platform. Proceedings of the Workshop on Innovation in Movement Behaviour Analysis. Proc. of Workshop on Measuring Behaviour - 7th International Conference on Methods and Techniques in Behavioural Research, 2p., 2010.
- [48] G. Gidófalvi and C. Moran. Estimating Traffic Performance in Road Networks from Anonymized GPS Vehicle Probes. Proc. of the Workshop on Movement Research: Are you in the flow? - AGILE 2010 Conference, 2010.
- [49] G. Gidófalvi, X. Huang and T. Bach Pedersen. Probabilistic Grid-Based Approaches for Privacy-Preserving Data Mining on Moving Object Trajectories. Chapman & Hall/CRC Data Mining and Knowledge Discovery Series, Privacy-Aware Knowledge Discovery : Novel Applications and New Techniques, pp. 183-210, CRC Press, 2010.

NON PEER
REVIEWED
CONFERENCE
CONTRIBUTIONS

BOOKS AND
CHAPTER
CONTRIBUTIONS

- [50] G. Gidófalvi. Spatio-Temporal Data Mining for Location-Based Services, PhD Thesis. Ph.D. Thesis, Department of Computer Science, Aalborg University, ISSN: 1601-0590, 442008.
- REPORTS
- [51] G. Gidófalvi, X. Huang and T. Bach Pedersen. Privacy-Preserving Data Mining on Moving Object Trajectories. Technical report. AAU DB Tech Reports; 20, pp. 1-14, Aalborg University, Department of Computer Science, 2007.
- [52] G. Gidófalvi and C. Elkan. Using News Articles to Predict Stock Price Movements. Technical Report, University of California, San Diego, Department of Computer Science and Engineering, 2003.
- OTHER PUBLICATIONS
- [53] G. Gidófalvi and C. Yang. The potential of route based ERS network optimization. Working journal paper submitted to Transport Research Arena (TRA 2020) and European Transport Research Review (ETRR), 12p., 2020.
- [54] G. Gidófalvi. Compressing the Mobility History of Populations into an Anonymous Travel Pattern Data Warehouse for Travel Behavior Analysis and Modeling. Working paper (extended abstract) submitted to Proc. of 12th International conference on Transport Survey Methods, (ISCTSC), 3p., 2020.
- [55] G. Gidófalvi. Trajectory and Mobility Based Services: A Research Agenda. Working paper submitted to 15th International Conference on Location Based Services (LBS2019), 5p., 2019.
- [56] S. P. Cumbane, G. Gidófalvi. Review of Big Data and Processing Frameworks for Disaster Response Applications. Working paper to be submitted to International Journal of Geo-Information, 24p., 2019.
- [57] C. Yang and G. Gidófalvi. Detecting regional dominant movement patterns in trajectory data with a convolutional neural network. Under major revision in International Journal of Geographical Information Science, 2019.
- [58] G. Gidófalvi and C. Yang. Efficient Archiving and Anonymization of Trajectories. Working paper to be submitted to International Journal of Geographical Information Science, 2019.
- [59] G. Gidófalvi and E. Saqib. Anonymous Mobile Consumer Analysis Platform. Working paper to be submitted to Journal of Location Based Services, 2019.
- [60] A. C. Prelipean, G. Gidófalvi and Y. O. Susilo. Longest common subsequences: Identifying the stability of individuals' travel patterns. Under major revision in Transportation, 32p., 2018.
- [61] G. Gidófalvi, M. Kaul, C. Borgelt, and T. B. Pedersen. Mining Frequent Routes from Incrementally Evolving Moving Object Trajectories in Road Networks. Presented at the Geographic Information Technology for a Sustainable Society Conference, GIT, Jönköping, 2011.
- [62] N. Holm, E. Plynning and G. Gidófalvi. Spatio-temporal Prediction of Residential Burglaries Using Deep Neural Networks. Working paper.
- [63] G. Gidófalvi and A. Sidahmed. MapReduce Based Semantic Co-clustering of Moving Object Trajectories and Locations. Working paper.
- [64] G. Gidófalvi and A. Sidahmed. Grid-Based Multidimensional Spatial Pattern Mining. Working paper.

TEACHING
EXPERIENCE**KTH Royal Institute of Technology, Department of Urban Planning and Environment, Division of Geoinformatics, Stockholm, Sweden**Course Responsible**2010 to present**

- International Master courses:
 - AG2414 - Spatial Analysis (since 2011 annually)
 - AG2425 - Spatial Databases (since 2010 annually)
 - AG2415 - Web GIS (2010, 2011)
 - AG2426 - Mobile GIS (2010, 2011)
 - AG2417 - Web and Mobile GIS (since 2012 annually)
 - AG2421 - A GIS Project (2010, 2017)
 - AG1421 - Real Estate Information Technology (since 2016 annually)
 - AH2178 Research Methodology and Comm. Skills (since 2018 annually^L)
 - AG134X Degree Project in Built Environment (since 2018 annually^{RE})
- Roles: Course responsible^R, lecturer^L, and examiner^E.

Pedagogical Studies**2010 to present**

- LH203V Learning and Teaching in Subject Perspective course (5 credits)
- LH207V Doctoral Supervision course (3 credits)
- LH201V Learning and Teaching course (7.5 credits)
- Workshop in CDIO Teamwork (Integrating teamwork in programs and courses)
- Partners In Learning (PIL) program

Uppsala University, Dept. of Information Technology (UDBL), Uppsala, SwedenCourse Assistant**2008 to 2010**

- Courses:
 - 1DL018 - Electronic Commerce and Security (2009, 2010)
 - 1DL029 - Database Design I (2008)
 - 1DL105 - Data Mining (2008, 2009)
- Duties: Prepare and grade lab / programming assignments and exams, maintain course homepage, present tutorials in lectures, hold office hours, supervise group projects, and develop future course structure and content.

UC San Diego, Dept. of Computer Science and Engineering (AI) San Diego, CATeaching Assistant**2001 to 2002**

- Courses:
 - CSE 134A - Web Service Design and Programming (2002)
 - CSE 101 - Introduction to Algorithms (2001, 2002)
- Duties: Prepare and grade assignments and tests, hold office hours and discussion sections.

San Diego State University - HCOP, San Diego, CAPhysics MCAT Prep Course Instructor**1999 to 2000**

- Review relevant college level physics material for small groups of 10-20 students as a preparation for the Medical College Admission Test (MCAT).

Physics Tutor, Workshop Facilitator, and Teaching Assistant**1997 to 2000**

- In addition to general teaching duties, also show leadership, be a role model and give motivation to my students.

RESEARCH
GRANTS

- Co-applicant, KTH PI and KTH project leader in “ZEUS: Zero Emission off-peak Urban deliveries”, 1.1 MSEK / 11 MSEK / 11 MSEK (KTH share 0.16 MSEK / 1.9 MSEK / 0.95 MSEK), (EIT KICK Urban Mobility) [2019 (approved), 2020 and 2021 (pending)]
- Co-applicant, KTH Co-PI in “MOBY: Living lab e-micromobility”, 5 MSEK / 12 MSEK (KTH share 0.6 MSEK / 1.4 MSEK), (EIT KICK Urban Mobility) [2020 (approved) and 2021 (pending)]
- Co-applicant and KTH PI in “InterCityLog2: Minimizing transport work with cross-sectoral cooperation”, 2.21 MSEK (KTH share 0.85 MSEK), (Enegimyndigheten [Swedish Energy Agency] grant nr 40587-2) [2019-2021]
- Applicant, project leader and academic supervisor in “MERGEN: Multi-purpose biometric Evaluation Research-tool Grounded in Emerging Network technologies”, 3.05 MSEK, (ITRL curiosity-driven project), [2019-2021]
- Applicant, project leader and researcher in “RENO: Route based ERS Network Optimization”, 0.5 MSEK, (ITRL curiosity-driven project), [2019]
- Applicant, project leader and researcher in “ASSET: A System-of-Systems for Sustainable Efficient Transport (pre-study)”, 0.5 MSEK, (Vinnova FFI SoSSUM), [2018-2019]
- Applicant and project leader in “Mot hållbar elbilsanvändning [Towards a sustainable use of electric vehicles]”, 4.39 MSEK, (Naturvårdsverket [Swedish Environmental Protection Agency] application No. 802-0084-17), [2018-2020]
- Co-applicant and KTH co-PI in “NOESIS: Novel Decision Support tool for Evaluating Strategic Big Data investments in Transport and Intelligent Mobility Services”, 11.97 MSEK (KTH share 1.32 MSEK), (EU grant agreement nr 789980) [2017-2019; <http://noesis-project.eu/>]
- Co-applicant and project implementer in “Capacity Building in Geographic Information Technologies for Disaster and Natural Resource Management”, 18.85 MSEK (KTH share: 3.84 MSEK), Sida, [2018-2022]
- Co-applicant and project implementer in “Exploring day-to-day individual activity-travel behaviors based on a smartphone app’s travel diary (SPOT2)”, 2.7 MSEK (KTH share 1.85 MSEK), Trafikverket (TRV 2016/13851), [2016-2017]
- Co-applicant and project implementer in “Upgrading and Strengthening the Makerere University Wide GIS Centre,” 5,131 MSEK (KTH share: 0.75 MSEK), Sida, [2015-2019]
- Co-applicant and KTH co-PI in “Trialling and Comparing Smartphone Based Travel Data Collection with Paper-and-Pencil Method (SPOT)”, 2,38 MSEK (KTH share: 1.3 MSEK), Trafikverket (TRV 2014/10422), [2014-2015]
- Applicant and PI in “Interactive geovisualization of dynamic mobile user densities and flows from anonymized Call Detail Records (CDRs)”, 50 kSEK, KTH ICT platform - AIMDay Big Data Initiative, [2014]
- Application co-author and project implementer in “Strengthening the Capacity of CGIS–NUR for Quality Research and Adequate Delivery of Post-graduate Academic Programmes in the field of Geo-Information Science and Earth Observation towards Sustainable Environment, Natural Resources Management and Socio-economic Transformation”, 13,987 MSEK (KTH share: 1.6 MSEK kSEK), Sida, [2014-2018]
- Applicant and PI in “Power-efficient, Intelligent Travel Survey Mobile Application”, 20 kSEK, KTH’s iTRUE – innovative Transport Research Undergraduate Experience, [2013]
- Applicant and PI in “Privacy-Aware Mobility Data Collection for Sustainable Development”, 150 kSEK, Faculty funds in support of Assistant Professors in ABE at KTH, [2012]
- Co-applicant and project implementer in “Where to next? Understanding People’s Destination Decisions When Moving Through Space and Time”, 400 kSEK (share

CONFERENCE
PARTICIPATION
AND INVITED
TALKS

- 200 kSEK), Transport Research Environment with Novel Perspectives (TRENOP) Seed Fund at KTH, [2012]
- Applicant and PI in “Mining Mobility Patterns from Individual Trajectories”, 150 kSEK, Transport Research Environment with Novel Perspectives (TRENOP) Seed Fund at KTH, [2010-2011]
- 20 full and 2 poster presentations of papers listed under “Peer Reviewed Conference Contributions”
- Invited talk on “Spatial data mining and analysis of urban mobility: A Stockholm case study using the location of taxi cars over time” as part of the “PhD course AG3170 Spatial Data Analysis in Practice” at KTH, Stockholm, June 3, 2019.
- Invited talk on “Overview of Electromobility Projects at ITRL with Focus on Route Based ERS Network Optimization” at the “Cross-thematic workshop on developments in components and systems for electromobility” of the Swedish Electro Mobility Center, Stockholm, Sweden, May 15, 2019.
- Session chair at the International Conference on Integrated Transport 2019, CIT 2019, for the session “Got the goods? – Sustainable freight transport: Will new technologies contribute to road freight transport sustainability?,” Stockholm, Sweden, June 13, 2019.
- Invited lecture and tutorial on “Google Earth Engine: A paradigm changing tool for performing Big Geo Data analysis” at the “KTH Smart Cities Summer School,” Stockholm, Sweden, July 3, 2018.
- Invited lecture and tutorial on “Introduction to Spatial Databases” as part of the “MSc course AG2130 Applied Urban and Regional Analysis” at KTH, Stockholm Sweden, Sept 25, 2017.
- Session chair at the Fourth ACM SIGSPATIAL International Workshop on Mobile Geographic Information Systems, MobiGIS 2014, for the session “Mobile Data Analytics and Modeling,” November 3, 2015, Seattle, Washington, USA.
- Session chair at the Second ACM SIGSPATIAL International Workshop on Mobile Geographic Information Systems, MobiGIS 2013, for the session “Spatio-temporal Query Processing, Sensor Data Analysis & Localization,” November 5, 2013, Orlando, Florida, USA.
- Invited lecture on “Grid-Based Intelligent Traffic Information Hub” at the ToL/TLA Friday Joint Seminar at the Department of Transport Science, KTH, Stockholm, Sweden, May 3, 2013.
- Invited lecture on “Brief Survey of Trajectory Prediction” at the Dagstuhl Seminar 12512: Representation, Analysis and Visualization of Moving Objects., Organized by J. Gudmundsson, P. Laube, S. Timpf, and E. Van Loon, Schloss Dagstuhl, Germany, December 16-21, 2012.
- Invited lectures on “Frequent Route Based Continuous Moving Object Location- and Density Prediction on Road Networks” and “Grid-Based Multidimensional Spatial Pattern Mining - A MapReduce Implementation” at the Institute Of High Performance Computing (IHPC), Agency for Science, Technology and Research (A*STAR), Singapore, March 6-9, 2012.
- Invited lecture on “Selection of Recent Projects in Spatio-Temporal Data Mining” at the NCG Seminar at the National Centre for Geocomputation, National University of Ireland, Maynooth, Ireland, November 16. 2011.

SUPERVISION

- Currently supervising four doctoral students. De-facto main supervisor to Can Yang and Silvino Cumbane. Co-supervisor to Robin Palmberg and Rachel Murekatete.
- Rasmus Eduards, “Custom Base Maps for Utility Network Applications,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Josefine Jonsson, “Change and Version Management of Transport Network Data

- Between Different Database Models: A Case Study on the Swedish National Road Database,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: Thomas Norlin (Swedish Traffic and Road Authority), Examiner: Prof. Y. Ban
- Xutong Ouyang, “Exploring the attributes relevant to accidents between vehicles and unprotected road users, taking Stockholm as an example,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Felix Bergman and Evelina Östblom, “GIS-based crisis communication: A platform for authorities to communicate with the public during wildfire,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Lea Zuna, “Understanding and Improving the Utilization of Web and Mobile GIS Solutions for Outdoor Environment Management,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Adrian Cornelius Prelipcean, “MEILL: Multiple Day Travel Behaviour Data Collection, Automation and Analysis,” **Doctoral thesis** at KTH, 240 credits
Co-supervisor: Prof. Y. O. Susilo and Assoc. Prof. G. Gidófalvi, Opponent: Assoc. Prof. Z. Pattersson
 - Noah Holm and Emil Plynningn, “Spatio-temporal Prediction of Residential Burglaries Using Deep Neural Network,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: Lisa Edman (Swedish Police), Examiner: Assoc. Prof. T. Shirabe
 - Can Yang, “Discovering Contiguous Sequential Patterns in Network-Constrained Movement,” **Licentiate thesis** at KTH, 120 credits
Co-supervisor: Assoc. Prof. G. Gidófalvi and Prof. Y. Ban, Opponent: Assoc. Prof. C. Rydergren
 - Adrian Cornelius Prelipcean, “Capturing travel entities to facilitate travel behaviour analysis: A case study on generating travel diaries from trajectories fused with accelerometer readings,” **Licentiate thesis** at KTH, 120 credits
Co-supervisor: Assoc. Prof. G. Gidófalvi and Assoc. Prof. Y. O. Susilo, Opponent: Assoc. Prof. S. van der Spek
 - Alexej Schmidt, “Mobile GIS Support for Radar-based Airborne Rescue Operations,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: L. Brugge (Recco), Examiner: Prof. Y. Ban
 - Erik Ivarsson Sandberg, “Kvalitetsanalys av digitalt cykelkartsdata,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Mesele Atsbeha, “Spatio-temporal Traffic Flow Prediction,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Natalie Ekroth and Josefin Lennartsson, “Web-based Multicriteria Decision Analysis and Visualization for Reinvestments in Power Networks,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: Daniel Sedell (Digpro), Examiner: Prof. Y. Ban
 - Rui Liu, “Travel Diary Semantics Enrichment of Trajectories based on Historical Labeled Data and Trajectory Similarity Measures,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
 - Alice Huggosson, “GIS som operativt arbetsverktyg inom Vattenfall Vattenkraft AB,” BSc thesis at KTH, 15 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: P. Lindholm (Vattenfall), Examiner: Prof. Y. Ban

- Klas Gustafsson and Oskar Berg, “2D and 3D Visualization to Support Fieldwork in the Area of Utility Networks,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: J. Larsen (Digpro), Examiner: Prof. Y. Ban
- Shérazade Gadhomi, “Platforms for Real-time Moving Object Location Stream Processing,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: A. Degwerth (Airbus Defense & Space), Examiner: Prof. Y. Ban
- Noah Holm, “Möjligheter och utmaningar med öppna geodata,” BSc thesis at KTH, 15 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: C. Hals (Agima Management), Examiner: Prof. Y. Ban
- Emil Plynning, “Route planning using multiple attributes: Finding routes other than the shortest for bicycles,” BSc thesis at KTH, 15 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Fredrik Hilding and Ella Sylk, “User-centric Web-based System for Visualization of NIS-data for Layman Users,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: A. Bronder (Digpro), Examiner: Prof. Y. Ban
- Anders Magnusson, “Web Application for Travel Diary Annotation and Methods for Trip Destination and Purpose Inference,” MSc thesis at KTH, 30 credits
Main supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Ehsan Saqib, “Anonymous Mobile Consumer Analysis Platform,” MSc thesis at KTH, 30 credits
Main supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Felicia Stenivall, “Implementation av Svensk geoprocess i kommunal verksamhet,” MSc thesis at KTH, 30 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Company Supervisor: E. Persson (Agima Management AB), Examiner: Prof. Y. Ban
- Petter Kihlström, “Literature Study and Assessment of Trajectory Data Mining Tools,” BSc thesis at KTH, 15 credits
Academic Supervisor: Assoc. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Mahnaz Narooie, “Boosting Public Participation in Urban Planning Through the Use of Web GIS Technology: A Case Study of Stockholm County,” MSc thesis at KTH, 30 credits
Main Supervisor: Asst. Prof. G. Gidófalvi, Examiner: Assoc. Prof. M. Håkansson
- Maryam Zandi, “Estimating Nighttime and Daytime Populations Using Space Syntax : A Case Study of the Greater Copenhagen Area,” MSc thesis at HIG, 15 credits
Main Supervisor: Asst. Prof. G. Gidófalvi, Examiner: Assoc. Prof. R. Nelson
- Axel Bronder and Erik Persson, “Design, Implementation and Evaluation of a Mobile GIS Solution for a Land Registration Project in Lesotho,” MSc thesis at KTH, 30 credits
Academic Supervisor: Asst. Prof. G. Gidófalvi, Company Supervisor: J. Riise (COWI), Examiner: Prof. Y. Ban
- Camilla Isaksson, “HTML5-based Travel Habit Application: Investigation of Vector Web Mapping Possibilities,” MSc thesis at KTH, 30 credits
Academic Supervisor: Asst. Prof. G. Gidófalvi, Company Supervisor: J. Sundin (WSP), Examiner: Prof. Y. Ban
- Nuosuola Li, “Large-Scale Realistic Macro-Simulation of Vehicle Movement on Road Networks,” MSc thesis at KTH, 30 credit
Main supervisor: Asst. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Zhu Rui, “Moving Object Trajectory Based Intelligent Traffic Information Hub,” MSc thesis at KTH, 30 credits
Main supervisor: Asst. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban

- Fang Dong, “Moving Object Trajectory Based Spatio-Temporal Mobility Prediction.,” MSc thesis at KTH, 30 credits
Main supervisor: Asst. Prof. G. Gidófalvi, Examiner: Prof. Y. Ban
- Mandana Mokhtary, “Sensor Observation Service for Environmental Monitoring Data,” MSc thesis at KTH, 30 credits
Academic Supervisor: Asst. Prof. G. Gidófalvi, Company Supervisor: Dr. M. Dunkars (Sweco), Examiner: Prof. Y. Ban
- Manohar Kaul, “Frequent Route Based Continuous Moving Object Location and Density Prediction on Road Networks,” MSc thesis at Uppsala University, 30 credits
Main supervisor: Asst. Prof. G. Gidófalvi, Examiner: Prof. T. Risch and Assoc. Prof. A. Jansson
- Arnau Fombuena Valero, “3D Augmented Reality Mobile Application Prototype for Visual Planning Support,” MSc thesis at KTH, 30 credits
Co-supervisors: Asst. Prof. G. Gidófalvi and Dr. J. M. Palomar Vázquez, Examiner: Prof. Y. Ban
- Johan Sandberg, “Challenges within Geographical Data Sharing Using OGC Standards Regarding the INSPIRE Directive,” MSc thesis at KTH, 30 credits
Academic Supervisor: Asst. Prof. G. Gidófalvi, Company Supervisors: J. Tornberg and P.-O. Noren (Sweco), Examiner: Prof. Y. Ban
- Yashar Balazadegan Sarvrood and Md Nurul Amin, “Server Based Real Time GPS-IMU Integration Aided by Fuzzy Logic Based Map Matching Algorithm for Car Navigation,” MSc thesis at KTH, 30 credits
Co-supervisors: Asst. Prof. G. Gidófalvi and Assoc. Prof. M Horemuz, Examiner: Prof. L. Sjöberg
- Yang Bo, “Querying JSON Streams,” MSc thesis at Uppsala University, 30 credits
Main supervisor: Dr. G. Gidófalvi, Examiner: Prof. T. Risch and Assoc. Prof. A. Jansson

SUPERVISION AND TEACHING QUALIFICATIONS Completed the 3-credit LH207V Doctoral Supervision course as part of the 15 credit university teaching education at KTH. Certificates of courses are attached.

OTHER QUALIFICATIONS

Selected Awards and Recognition

- 2004 - Danish Ministry of Science, Technology and Innovation research grant.
- 2000 - Macro Fellowship at UCSD.
- 2000 - First Price at SDSU’s College of Sciences Undergrad Research Symp.
- 2000 - Graduated Summa Cum Laude from SDSU.

Scientific Service: Editorial board / program committee member

- International Cartographic Association’s Commission on Location-Based Services (LBS). Helped to develop the LBS Research Agenda.
- Journal of Location Based Services
- IEEE Int’l Workshop on Scalable Computing for Big Data Analytics
- The 6th Int’l Conf. on Multimedia and Ubiquous Engineering
- 12th Int’l Conf. on Data Warehousing and Knowledge Discovery

Expert Assignments: Reviewer / opponent

- Expert midterm and final reviewer of H2020 datAcron: Big Data Analytics for Time Critical Mobility Forecasting
- Advance Reviewer of KTH Licentiate Thesis of Matej Cebecauer on “Short-Term Traffic Prediction in Large-Scale Urban Networks”
- Opponent for Linköping University Licentiate Thesis of Nils Breyer on “Analysis of Travel Patterns from Cellular Network Data”

Reviewer for more than 25 journals and conferences, including: J. of Transportation, ETRR, TRP (Transportation Research Procedia), EWGT (EURO Working Group on Transportation), ITS Congress (World and Europe), CIT (Intl. Conf. on Integrated Transport), Geoinformatica, IJGIS, JLBS, TSAS (Transactions on Spatial Algorithms and Systems), JoSIS, JoDS, TKDE, KAIS, DAPD, The Computer Journal, ACM GIS, ACM SIG SPATIAL, VLDB, SIGMOD, ICDE, EDBT, MDM, DaWaK, DEXA, DOLAP, ADVIS, IASTED, ADBIS, ICDCIT, ICNSW, SBBD, and MUSIC.

Networks

- CLOSER Swedish arena for transport efficiency
- CLOSER Round Table on Urban Mobility
- CLOSER Round Table on Digitalized and Connected Logistics
- Swedish Electromobility Center

Languages

- Hungarian (native)
- English (fluent)
- Swedish (fluent)
- German (fluent/intermediate - Goethe Institut B2 (1990))
- Danish (beginner)

REFERENCES AVAILABLE TO CONTACT

- Prof. Yusak O. Susilo (Transport Science)
<https://www.kth.se/profile/yusak/>
yusak.susilo@abe.kth.se, +46-8-790-9635
- Prof. Torben B. Pedersen (Computer Science)
<http://people.cs.aau.dk/tbp/>
tbp@cs.aau.dk, +45-9940-8915
- Assoc. Prof. Takeshi Shirabe (Urban Planning / Geoinformatics)
<https://www.kth.se/profile/shirabe>
shirabe@kth.se, +46-8-790-6363

LETTERS OF RECOMMENDATION

Letters of recommendation from the references are available on request.

DIPLOMAS AND CERTIFICATES

Attested copies of completed education, grades and other certificates are available on request.