Nassim Motamedidehkordi
22 Military Court, Richmond Hill, ON, L4E0M3
Tel: (647) 997-7462, Email: nassim.motamedidehkordi@tum.de

Summary

A motivated transportation engineer, expert in optimizing and maturing transportation systems through emerging technologies such as autonomous and connected vehicles with the aim to increase the safety and efficiency of the transportation systems.

Education

Technical University of Munich, Munich **(10/2015 – present)**
Ph.D. in Traffic Engineering and Control

Technical University of Munich, Munich **(04/2015)**
Master of Science in Transportation Systems, Focus: Intelligent Transportation Systems (ITS)

University of Tehran, Tehran **(07/2012)**
Bachelor of Science in Civil Engineering- Surveying

Career Summary

- **Researcher**

Technical University of Munich, Munich, Germany *(05/2015 – present)*

Responsible for various research projects which are briefly described below:

1) OTS 1.0 - Optimized transport system based on autonomous electric vehicles

- Funded by: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany.
- Main duty: Project manager; analysis of the effects of autonomous shuttle buses in urban areas with microscopic traffic flow simulation tool; developing a routing optimization with Google OR Tools.

2) Identification of complex traffic scenarios for automated vehicles

- Funded by: BMW AG
- Main duty: Data collection from the traffic scenarios; Classification of situations based on their nature, impact on safety, complexity and efficiency; Development of a database for categorization of scenarios in Java.

3) Impact of Partially- and Highly Automated Vehicles on Capacity of the German Freeway Network

- Funded by: Research Association for Automotive Technology (FAT) of Germany
- Main duty: Simulation of the standard segments of German freeway infrastructure for different penetration rates of automated; Impact assessment of the system; examining the statistical significance of results.

PTV Group, Karlsruhe, Germany *(10/2014 – 04/2015)*

Responsible for the following research project:

1) Analysis of Shockwaves on Motorways and Possibilities of Damping by C2X Applications.

- Funded by: PTV AG
- Main duty: Network modeling in Vissim; precise calibration of the car following behavior based on the macroscopic and microscopic data; analysis the impacts of C2X and automation; examining the shockwave propagation speed on motorways.

- **Intern**

PTV Transport Consult GmbH, Karlsruhe, Germany *(04/2014 – 09/2015)*

Responsible for various Transportation projects such as:

1) Network model of Stuttgart to update the regional transport plan.
2) Air treatment plan in Freiburg and examination of low-emission zone.
3) Traffic examination of 6-lane extension of N01 Luterbach-Härkingen.
4) Traffic examination of A26 Hafenquerspange Hamburg.

- Main duty: Network modeling with the software products Vissim, Visum and Vistro; Data collection from different sources; building up and adapting transport networks at macroscopic and microscopic level; evaluating and editing the simulation results.

Technical Skills

- Proficient in macroscopic, microscopic and sub-microscopic traffic simulation tools such as PTV VISUM, VISSIM, VISWALK, Aimsun, Sumo, CarMarker and CarSim.
- Proficient in Matlab and Python
- Proficient in ArcGIS
- Proficient in AutoCAD

Language Proficiency

Persian:	Native speaker
English:	Fluent
German:	Fluent
French:	Proficient

Major Publications

Motamedidehkordi, N.; Margreiter, M.; Hoffmann, S.; Busch, F.: *Impacts of Automated Vehicles on Operational and Safety Performance of Freeway Traffic Flow*. Transportation Research Board 96th Annual Meeting, 2017.

So., J., Motamedidehkordi, N., Wu, Y., Busch. F., Choi, K.*: Estimating Emissions Based on the Integration of Microscopic Traffic Simulation and Vehicle Dynamics Model*. International Journal of Sustainable Transportation, 2017.

Hartmann, M; Motamedidehkordi, M.; Krause, S.; Hoffmann, S.; Vortisch, P; Busch, F.: *Impact of Automated Vehicles on Capacity of the German Freeway Network*, ITS World Congress 2017.

Motamedidehkordi, N., Amini, S., Hoffmann, S., Busch, F., Riziki Fitriyanti, M.: *Modeling Tactical Lane-change Behavior for Automated Vehicles: A Supervised Machine Learning Approach*.5th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems, 2017.

Motamedidehkordi, N.; Margreiter, M.; Benz, T.: *Effects of Connected Highly Automated Vehicles on the Propagation of Congested Patterns on Freeways*. Transportation Research Board 95th Annual Meeting, 2016.

Motamedidehkordi, N.; Margreiter, M.; Benz, T.: *Shockwave Analysis on Motorways and Possibility of Damping by Autonomous Vehicles*. Advanced Microsystems for Automotive Applications 2015 - Smart Systems for Green and Automated Driving, Springer Lecture Notes in Mobility, 2015 19th International Forum.

References are available upon request.