

Hoang Duy Trinh

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📍 Av. Carl Friedrich Gauss 13, Castelldefels, Barcelona, Italian citizenship

Summary of Qualifications

Ph. D. candidate in Telematics Engineering at Polytechnic University of Catalunya, Barcelona, Spain. I received M. Sc and B. Sc. in Telecommunication Engineering at University of Padua, Italy. In 2016, I was awarded with Marie Skłodowska-Curie Action (MSCA) Fellowship in the European Horizon 2020. Starting from 2016, I'm a Research Assistant in the Communication Network Division at CTTC, Barcelona. I'm experienced in Service Integration (ESB) and Cloud SaaS. My research topics include Data Analytics and Machine Learning applied to Mobile Networks.

Education

September 2016 – Present (expected Jan 2020), Polytechnic University of Catalonia, Barcelona, Spain

Ph. D. Student, Telematics Engineering

September 2017 - February 2018, University of Maryland, College Park, Maryland, US

Visiting Researcher, Dept. of Electrical and Computer Engineering

October 2015 - October 2013, University of Padua, Padua, Italy

M. Sc. in Telecommunication Engineering

Final Degree: 110 / 110

October 2010 - July 2013, University of Padua, Padua, Italy

B. Sc. in Information Engineering

Work Experience

September 2016 – Present, Barcelona, Spain

Research Assistant, Centre Tecnologic de Telecomunicacions de Catalunya

Main responsibilities:

- Research Assistant in the Communication Networks Division of CTTC
- Marie Skłodowska-Curie Fellow in the EU H2020 MSCA SCAVENGE
- Machine Learning applied to Mobile Networks, 5G, LTE, Self-Organized Network
- Dissemination of research activities and results at conference, talks and poster sessions

October 2015 - September 2016, Milan, Italy

IT Consultant, Logistics Reply SRL

Main responsibilities:

- AWS SaaS Warehouse Management for e-commerce (e.g. Costco, Alibaba's Tmall)
- Web Services Integration (ESB) for Logistics Process
- Dev Tools: Amazon AWS, Oracle Database, MuleSoft, Apache Mule

Publications

- **Classification of Mobile Services and Apps through Physical Channel Fingerprinting: a Deep Learning Approach**, *H. D. Trinh, AF. Gambin, L. Giupponi, M. Rossi, P. Dini*, IEEE Transactions on Mobile Computing (under review)
- **Detecting Mobile Traffic Anomalies through Physical Channel Fingerprinting: A Deep Semi-Supervised Approach**, *H. D. Trinh, E. Zeydan, L. Giupponi, P. Dini*, IEEE Access 2019
- **Urban Anomaly Detection by Processing Mobile Traffic Traces with LSTM Neural Networks**, *H. D. Trinh, L. Giupponi, P. Dini*, CyberEdge: Edge Computing for Cyber Physical System Workshop, 2019 IEEE International Conference on Sensing, Communication and Networking SECON, Boston, USA
- **Unveiling Radio Resource Utilization Dynamics of Mobile Traffic through Unsupervised Learning**, *A. Rago, G. Piro, H. D. Trinh, G. Boggia, P. Dini*, 2019 TMA: Network Traffic Measurement and Analysis Conference, Paris, France
- **Mobile Traffic Prediction from Raw Data Using LSTM Networks**, *H. D. Trinh, L. Giupponi, P. Dini*, 2018 IEEE 29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Bologna, Italy
- **Analysis and Modeling of Mobile Traffic Using Real Traces**, *H. D. Trinh, N. Bui, J. Widmer, L. Giupponi, P. Dini*, 2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Montreal, Canada

Skills and Knowledge

Programming Languages

- *Advanced*: **Python, MATLAB**
- *Intermediate*: **R, C++, PL/SQL, Java**

Python Libraries

- *Data Analysis and Visualization*: **numpy, pandas, matplotlib, seaborn, plotly**
- *Deep Learning (AI) and Machine Learning*: **sklearn, keras, tensorflow, pytorch, xgboost**

DevOps

- *IDE*: **Jupyter NB, Eclipse, RStudio**
- *DB*: **Oracle, MySQL, MongoDB**
- *Cloud*: **AWS (EC2, S3, SageMaker), Google Cloud Platform**
- *others*: **maven, git, SVN, Anypoint MuleSoft, Apache Mule**

Personal Skills

- *Languages*: **Italian (Mother Tongue), English (Proficient), Spanish (Intermediate), Vietnamese (Basic)**
- **Team player** and able to work in **multi-cultural** environments thanks to years of working and studying abroad

Certified Courses (MOOC)

- Machine Learning Engineer Nanodegree (Udacity)
- PyTorch Challenge Facebook Scholarship (Udacity)
- DeepLearning.ai Specialization (Coursera)
- How Google does Machine Learning (Coursera)
- Using Python to Access Web Data University of Michigan (Coursera)