Hoang Duy **Trinh**

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Short Bio

Born on 27/02/1991, Padua, Italy. Ph. D. Fellow in Network 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 have been awarded with Marie Skłodowska-Curie Action (MSCA) Fellowship in the European Horizon 2020. My research topics are in the area of Wireless Networks, Machine Learning and Anomaly Detection.

Education

September 2016 – June 2020

Ph. D. Student Network Engineering - *Polytechnic University of Catalonia, Barcelona, Spain*

- *MSCA Fellowship in the SCAVENGE Project Horizon 2020*
- *Thesis: Data Analytics for Mobile Traffic in 5G Networks using Machine Learning Techniques*

January 2019 – June 2019

Machine Learning Engineer Nanodegree – *Udacity*

- *ML Development and Deployment with Amazon AWS Sagemaker*

September 2017 - February 2018

Visiting Researcher, Dept. of ECE - *University of Maryland, MD, US*

October 2015 - October 2013

M. Sc. in Telecommunication Engineering - *University of Padua, Padua, Italy*

- *Final Degree*: *110 / 110*

October 2010 - July 2013

B. Sc. in Information Engineering - *University of Padua, Padua, Italy*

Work Experience

September 2016 – September 2019

Research Assistant, Centre Tecnologic de Telecomunicacions de Catalunya, Barcelona, Spain

- Research Assistant in the Communication Networks Division of CTTC
- Marie Skłodowska-Curie Fellow in the EU H2020 MSCA SCAVENGE
- Dissemination of research activities and results at conference, talks and poster sessions

October 2015 - September 2016

IT Consultant, Logistics Reply SRL, Milan, Italy

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

Publications

- **Mobile Traffic Classification through Physical Channel Fingerprinting: a Deep Learning Approach,** *H. D. Trinh, AF. Gambin, L. Giupponi, M. Rossi, P. Dini,* IEEE Transactions on Network and Service Management (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

- **Proactive Wake-Up Scheduler based on Recurrent Neural Networks,** *S. Rostami, H. D. Trinh, S. Lagen, M. Costa, M. Valkama, P. Dini, 2020 IEEE International Conference on Communications*

- **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

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**

Misc

- *IDE:* **Jupyter NB, Eclipse, RStudio**
- *DB:* **Oracle, MySQL, MongoDB**
- *DevOps:* **AWS (EC2, S3, SageMaker), Docker, Anypoint MuleSoft, Apache Mule**

Personal Skills

- *Languages*: **Italian (Mother Tongue), English (Proficient), Spanish (Intermediate), Vietnamese (Intermediate)**

Certified MOOCs:

- **Machine Learning Engineer Nanodegree (Udacity)**
- **PyTorch Challenge Facebook Scholarship (Udacity)**
- **Deeplearning.ai Specialization(Coursera)**
- **How Google does Machine Learning (Coursera)**