Álvaro Fernández

Avda. Palencia 29-31, 9 A
47010 Valladolid, Spain
+34 644 72 86 19
fernandez.f.alvaro@gmail.com
www.linkedin.com/in/fernandezfalvaro

Education

2012–2017 **Ph.D in Telematics**, *Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway.
Modelling and Analyzing Cost-Effective Dependability in Passive Optical Networks.

2006–2012 **Telecommunications Engineering (M.Sc.)**, *University of Valladolid (UVa)*, Valladolid, Spain.
"Premio extraordinario Fin de Carrera" (highest average grade among 2012 graduates).

Experience

2012–2016 **Teaching Assistant**, *Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway.

- Communications - Services and Networks: Network protocols and layering, coordinating a team of 10 teaching assistants. Responsible for Python and Wireshark crash courses. (2014–2016)
- Design of Reactive Systems 2: Team-based learning course. Software design of distributed systems, introduction to Internet of Things. Practical work with Java and Raspberry Pis. (2012–2015)
- Traffic and Dependability - Laboratory in tools and methodology: Traffic and dependability modelling and analysis of telecommunication systems. Statistical data analysis, results presentation and report writing. (2015)
- Access and Transport Networks: Network design and architectures, both wired and mobile. (2013–2014)

Languages

Spanish	Mother Tongue	English	Advanced
Norwegian (Bokmål)	Basic (Norwegian for Foreigners, NTNU – equiv. B1/B2)		

Programming Skills

- Java
- Python
- Simula
- SQL (MariaDB)
- Mathematica
- Matlab
- LaTeX
- Eclipse
- Git

Selected Publications

A full list of my publications can be found at my LinkedIn profile.

Journal Á. Fernández and N. Stol, "Economic, dissatisfaction and reputation risks of hardware and software failures in PONs", IEEE/ACM Transactions on Networking, 2016.

Á. Fernández and N. Stol, "CAPEX and OPEX simulation study of cost-efficient protection mechanisms in passive optical networks", Optical Switching and Networking, 2015.

Conference Á. Fernández and N. Stol, "Managing software failures and capacity assignment to control interval availability in PONs", 8th International Workshop on Resilient Networks Design and Modeling, Sweden, 2016.

Courses

2017 **Big Data Fundamentals**, *Big Data University by IBM*.
Big Data, Hadoop and Spark basics.

2016 **Data Manipulation at Scale: Systems and Algorithms**, *University of Washington (UW) on Coursera*.
Cloud computing, SQL and NoSQL databases, MapReduce concept, and graph-based algorithms (e.g. PageRank).

2013 **Advanced Discrete Event Simulation Methodology**, *Norwegian University of Science and Technology (NTNU)*, Ph.D level.
Simulation methods (trace driven, Markovian) with focus on Discrete Event Simulation, variance reducing techniques, planning of simulation studies and statistical analysis of results.

2012 **Optical Networking**, *Norwegian University of Science and Technology (NTNU)*, Ph.D level.
Modelling, analysis and design of reliability in ICT (hardware, software, networks), rare events and large unstructured state spaces.

2012 **Dependability Analysis of ICT Systems**, *Norwegian University of Science and Technology (NTNU)*, Ph.D level.
Physical properties, node design, protocols (MPLS, GMPLS, MPLS-TP), optical switching (circuit, packet, hybrid, burst), interoperation with IP.

Projects

2015–2016 **The Lone Lynx**, *Norwegian University of Science and Technology (NTNU)*, Internet of Things Lab.
Self-adapting mobile robot based on a Raspberry Pi: DiddyBorg board with 6 motors, infrared/ultrasonic distance sensors, accelerometer, and magnetometer. Software in Java.

References

Norvald Stol	Norvald.Stol@item.ntnu.no (+47) 735 92 133	Assoc. Prof. Stol is currently my PhD supervisor at NTNU.
Peter Herrmann	herrmann@item.ntnu.no (+47) 735 94 327	Prof. Herrmann is with the Internet of Things Lab at NTNU.