Carlos Pérez Penichet

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Education

2015–2020	**Ph.D. in Computer Science and Computer Communications**, *Uppsala University*, Sweden.
2011–2013	**Diploma in Advanced Studies in Telecommunications Engineering**, *U. of Minho*, Portugal.
Coursework	Signal processing, Communication networks, Digital communication systems, Mobile computing.
2004–2009	**Bachelor of Science in Physics**, *University of Havana*, Cuba.

Professional Experience

2015–	**PhD student**, *IT Department, Uppsala University*.
	Design, implementation and experimental evaluation of ultra-low-power communication techniques at the MAC layer and bellow for battery-free Internet of Things devices.
Teaching assistant	Algorithms and Data Structures, Internet of Things, Computer Networks, Distributed Systems.
Supervision	Supervision of master students and leading teams of two to four TAs.
2014–2015	**Researcher and Software Engineer**, *Faculty of Engineering, University of Porto, Portugal*.
	Worked closely with hardware designers and domain experts to design, implement and test software system to collect environmental data from custom sensor nodes deployed around the city of Porto and transmit them to a cloud server using heterogeneous networks.
2011–2013	**Researcher and Software Engineer**, *University of Minho, Portugal*.
	Researched and implemented algorithms to analyze human mobility patterns from smartphone observations of communication networks (WiFi and cellular) avoiding power hungry GPS. Designed and implemented web app for users to explore their own data.

Languages

Spanish	Native
English	IELTS Scores: Listening 8.5/Reading 8.5/Writing 7.5/Speaking 7.0/Overall 8.0 (2010)
Swedish[*]	Listening: A2/Reading: B2/Spoken interaction: A1/Spoken production: A1 Writing: A2
Portuguese[*]	Listening: C1/Reading: C1/Spoken interaction: B2/Spoken production: B2 Writing: B1

[*] Common European Frame of Reference (CEFR) level

Selected Publications

C. Pérez-Penichet, G. T. Daglaridis, D. Piumwardane, and T. Voigt. Modelling Battery-free Communications for the Cooja Simulator. In *Proceedings of the 2019 International Conference on Embedded Wireless Systems and Networks*, ACM EWSN '19, pages 47–58. Junction Publishing, USA, 2019. ISBN 978-0-9949886-3-8. Event-place: Beijing, China.

C. Pérez-Penichet, C. Noda, A. Varshney, and T. Voigt. Battery-free 802.15.4 Receiver. In *Proceedings of the 17th ACM/IEEE International Conference on Information Processing in Sensor Networks*, ACM/IEEE IPSN '18, pages 164–175. IEEE Press, Piscataway, NJ, USA, 2018. ISBN 978-1-5386-5298-5. doi:10.1109/IPSN.2018.00045.

A. Varshney, O. Harms, C. Pérez-Penichet, C. Rohner, F. Hermans, and T. Voigt. LoRea: A

Backscatter Architecture That Achieves a Long Communication Range. In *Proceedings of the 15th ACM Conference on Embedded Network Sensor Systems*, ACM SenSys '17, pages 18:1–18:14. ACM, New York, NY, USA, 2017. ISBN 978-1-4503-5459-2. doi:10.1145/3131672.3131691. Event-place: Delft, Netherlands.

Y. Luis, P. M. Santos, T. Lourenco, C. Pérez-Penichet, T. Calcada, and A. Aguiar. UrbanSense: An urban-scale sensing platform for the Internet of Things. In *2016 IEEE International Smart Cities Conference (ISC2)*, IEEE ISC2, pages 1–6. 2016. doi:10.1109/ISC2.2016.7580869.

C. Pérez-Penichet, F. Hermans, A. Varshney, and T. Voigt. Augmenting IoT Networks with Backscatter-enabled Passive Sensor Tags. In *Proceedings of the 3rd Workshop on Hot Topics in Wireless*, ACM HotWireless '16, pages 23–27. ACM, New York, NY, USA, 2016. ISBN 978-1-4503-4251-3. doi:10.1145/2980115.2980132.

Selected Advanced Courses

2018 **Wireless interfaces for embedded systems**, *Uppsala University*.
2012 **Wireless networks and protocols**, *MAP-tele*.
Mobile computing, *MAP-tele*.
2011 **Signal processing. Principles and applications**, *MAP-tele*.
Communication networks, *MAP-tele*.
Digital communication systems, *MAP-tele*.

Selected International Schools and Conferences

Nov, 2017 **Doctoral School on Transiently Powered Computing**, *SenSys'17*, Delft, The Netherlands.
Apr, 2016 **PhD Forum at the 15th International Conference on Information Processing in Sensor Networks**, *IPSN '16*, Vienna, Austria.
Sep, 2013 **8th summer school on applications of the Internet of Things and Wireless and Sensor Networks**, *SenZations 2013*, Palić, Serbia.

Skills

Programming Python (including Django, Numpy, Pandas), Java, C, Javascript, Git, HTML/CSS, AJAX
HDL Verilog
Databases Familiar with MySQL and PostgreSQL