

Alejandro Blanco Pizarro

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in [LinkedIN](#)

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RESEARCH EXPERIENCE

IMDEA Networks Institute

June 2022 - Present

Postdoctoral Researcher

Developing new algorithms for sensing applications like human respiration monitoring.

IMDEA Networks Institute

September 2017 - March 2022

Research Assistant

Developing channel decomposition algorithms to provide accurate user positioning. Their performances were implemented and evaluated using software-defined radios and off-the-shelf WiFi devices.

Supervisor: Dr. Joerg Widmer.

University of Padova

September 2021 - December 2021

PhD internship

Channel decomposition for respiration monitoring.

Supervisor: Dr. Michele Rossi.

University of Brescia

May 2019 - June 2019

PhD internship

Hardware imperfection characterization of a commodity WiFi to further extract angle of arrival.

Supervisor: Dr. Francesco Gringoli.

Reviewer for IEEE Transactions on Mobile Computing (TMC) and Transaction on Wireless Communications (TWC).

EDUCATION

PhD in Telematic Engineering

September 2017 - June 2022.

Universidad Carlos III de Madrid

Title: Algorithms for robust indoor localization and sensing using off-the-shelf devices.

Grade: Excellent with *cum laude* distinction

Master's Degree in Multimedia and Communications

September 2015 - September 2017.

Universidad Carlos III de Madrid

Specialized Master in topics such as machine learning, computer vision, audio and signal processing.

Master's Degree in Telecommunications Engineering

September 2015 - September 2017.

Universidad Carlos III de Madrid

TEACHING EXPERIENCE

Universidad Carlos III de Madrid

September 2018 - December 2018

Venia docendi

30 hours of teaching of the course Computer Networks.

WORKING EXPERIENCE

Everis Madrid

September 2014 - September 2015

Junior consultant

IT support, web developer and programming translator from COBOL to SQL.

PARTICIPATION IN PROJECTS

Reference: Huawei HF2016120010

Principal investigator: Joerg Widmer

Financing entity: Huawei Technologies (China)

AWARDS

Best Paper Award at ACM WiNTECH 2021 for the paper "AX-CSI: Enabling CSI Extraction on Commercial 802.11 ax Wi-Fi Platforms".

Best Paper Award at ACM WiNTECH 2018 for the paper "openLEON: an End-to-End Emulator from the Edge Data Center to the Mobile Users".

Third place at the Positioning Algorithm Competition for the IEEE CTW 2019. Achieve localization accuracy of 3.3 cm. We fused a classical approach algorithm, MUSIC, with deep neural networks to augment the localization performance.

LANGUAGES AND TECHNOLOGIES

Experience with Linux systems, embedded devices and commercial of-the-shelf experimentation.

Experience with signal processing algorithms for angle of arrival and time of flight estimation. In particular, experience with MUSIC, ESPRIT and compressed sensing algorithms.

Experience with Kalman filter applied to trajectory tracking.

Experience with software-defined radios (USRP) and LTE emulators such srsLTE and OpenAirInterface.

Experience with Mininet for software-defined networking applied to edge computing.

Computer Languages Python, MATLAB, Java, C/C++.

Software & Tools MATLAB, UHD, srsLTE, L^AT_EX, GIT, Linux.

Languages English (First Certificate), Spanish (Native).

PUBLICATIONS

Journal Articles

- [1] Fiandrino, C. and **Blanco Pizarro, A.** and Jiménez Mateo, P. and Andrés Ramiro, C. and Ludant, N. and Widmer, J. *openLEON: An end-to-end emulator from the edge data center to the mobile user*. **Computer Communications**, 2019. [Code](#).

Refereed Conference Contributions

- [1] **Blanco, A.** and Jimenez Mateo, P. and Gringoli, F. and Widmer, J. *Augmenting mmWave Localization Accuracy Through Sub-6 GHz on Off-the-Shelf Devices*. In Proceedings of the 20th Annual International Conference on Mobile Systems, Applications, and Services (**ACM MobiSys 2022**). Portland, OR, USA, Jun. 2022. [Code](#).
- [2] Gringoli, F. and Cominelli, M. and **Blanco, A.** and Widmer, J. *AX-CSI: Enabling CSI Extraction on Commercial 802.11 ax Wi-Fi Platforms*. In Proceedings of the 15th International Workshop on Wireless Network Testbeds, Experimental Evaluation & Characterization (**ACM WiNTECH 2021**). New Orleans, USA, Apr. 2022. [Code](#).
- [3] **Blanco Pizarro, A.** and Beltrán, J. P. and Cominelli, M. and Gringoli, F. and Widmer, J. *Ubiquitous Localization with Off-the-Shelf IEEE 802.11ac Devices*. In Proceedings of the 19th Annual International Conference on Mobile Systems, Applications, and Services (**ACM MobiSys 2021**). Virtual, WI, USA, Jun. 2021. [Code](#).

- [4] **Blanco, A.** and Ludant, N. and Jiménez Mateo, P. and Shi, Z. and Wang, Y. and Widmer J. *Performance Evaluation of Single Base Station ToA-AoA Localization in an LTE Testbed*. In IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (**IEEE PIMRC 2019**). Istanbul, Turkey, Sep. 2019.
- [5] Jiménez Mateo, P. and **Blanco, A.** and Ludant, N, and Marugan Borelli, M. and García-García, A. and Loch, A. and Shi, Z. and Wang, Y. and Widmer, J. *A Comprehensive Study of Low Frequency and High Frequency Channel Correlation*. In International Conference on Computing, Networking and Communications (**ICNC 2019**). Honolulu, HI, USA, Feb. 2019.
- [6] Andrés Ramiro, C. and Fiandrino, C. and **Blanco, A.** and Jiménez Mateo, P. and Ludant, N. and Widmer, J. *OpenLEON: An End-to-End Emulator from the Edge Data Center to the Mobile User*. In Proceedings of the 12th International Workshop on Wireless Network Testbeds, Experimental Evaluation & Characterization (**ACM WiNTECH 2018**). New Delhi, India, Nov. 2018.

PARTICIPATION IN CONFERENCES/RESEARCH EVENTS

The 20th ACM International Conference on Mobile Systems, Applications, and Services. ACM MobiSys 2022. June 2022

Paper presentation

The 19th ACM International Conference on Mobile Systems, Applications, and Services. ACM MobiSys 2021. June 2021

Paper presentation

IEEE ComSoc EMEA Industry-Students Panels. December 2020

Research presentation

The 30th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC 2019). September 2019

Paper presentation