Tomàs Ortega

Curriculum Vitae

✉ *tomaso@uci.edu*
tomasortega.net
LinkedIn profile

I am currently studying the communications requirements for convergence of distributed optimization algorithms in a network. This includes algorithms for Federated Learning and Decentralized Control.

Education

2021 – present **Ph.D. in Electrical Engineering**, *University of California, Irvine*, Irvine.

2020 – 2021 **Master's degree in Mathematics**, *Master's in Advanced Mathematics and Mathematical Engineering, UPC*, Barcelona.

2015 – 2020 **Bachelor's degree in Mathematics**, *CFIS, UPC*, Barcelona.

2015 – 2020 **Bachelor's degree in Telecommunications Engineering**, *CFIS, UPC*, Barcelona.

Professional and Research Experience

June – August 2022 **Graduate Fellow at NASA Jet Propulsion Laboratory**, *Designing and supervising the experimental tests for the channel sounding of Lunar South Pole communications. Developing novel algorithms for cooperative and compressed localization*, Pasadena.

September 2020 – January 2021 **Research Assistant at UPC (Signal Theory and Communications Department)**, *Design and optimization of 5G coverage estimators in urban scenarios, along with implementation and testing of the proposed solutions*, Barcelona.

February – July 2020 **JVSRP Internship at NASA Jet Propulsion Laboratory**, *Development and implementation of an adaptive-sweep algorithm for carrier acquisition and tracking in spacecraft radios (link to publication)*, Pasadena.

January – July 2019 **Research Project Collaborator at HP**, *Design of a ultrasound positioning system for mobile printers, with an emphasis on the position calculation and communications software*, Barcelona.

Summer of 2018 **Summer Internship at BaseTIS**, *Enhancing task automation and parallelization for data analysis and reporting for Gas Natural Informatica*, Barcelona.

Publications

Tomas Ortega and Hamid Jafarkhani. Gossiped and quantized online multi-kernel learning. *IEEE Signal Processing Letters*, 30:468–472, 2023. doi:10.1109/LSP.2023.3268988.

Tomas Ortega, Marc Sanchez Net, Kar-Ming Cheung, and Dariush Divsalar. Adaptive-sweep algorithm for spacecraft carrier acquisition and tracking: System analysis and implementation. In *2021 IEEE Aerospace Conference (50100)*, pages

1–9, 2021. doi:10.1109/AERO50100.2021.9438340.

Tomas Ortega, Marc Sanchez Net, Dariush Divsalar, and Kar-Ming Cheung. Acquisition and tracking of high dynamics doppler profiles for space applications. In *2021 IEEE Aerospace Conference (50100)*, pages 1–20, 2021. doi:10.1109/AERO50100.2021.9438418.

Tomàs Ortega, Antonio Pascual-Iserte, and Olga Muñoz. Los/nlos estimators for mmwave cellular systems with blockages. *IEEE Wireless Communications Letters*, 11(1):121–125, 2022. doi:10.1109/LWC.2021.3122090.

Conferences attended

- IEEE Aerospace Conference – March 2021

Other Courses and Seminars

- Seminar on quantum and classical error-correcting codes, organized by Simeon Ball, UPC (2021)
- Online Course - Using Python for Research, offered by Jukka-Pekka Onnela, Harvard University (2020)
- Summer Course - FME 1st Course of Introduction to Research, organized by Juanjo Rué, UPC (2019)
- Summer Course - JAE School of Mathematics , organized by Yago Antolín and Mario García Fernández, ICMAT-UAM (2019)
- Winter Course - Game Theory, offered by Josep Freixas, UPC (2019)
- Winter Course - Introduction to Deep Learning, organized by Xavier Giró, UPC (2018)
- Summer Course - BarcelonaTech Mathematics Summer Camp, organized by Fundació Privada Cellex, UPC (2015)
- Online Course - Programming Mobile Applications for Android Handheld Systems, offered by Adam Porter, University of Maryland (2014)
- Summer Course - Programming and algorithmics, offered by Salvador Roura and Jordi Petit, UPC (2014) and (2013)
- Summer Course – Computer graphics, offered by Àlvar Vinacua, UPC (2013)

Languages

Spanish	**Native**	*C1 certificate*
Catalan	**Native**	*C1 certificate*
English	**Proficient**	*Cambridge Proficiency certificate*
French	**Good**	*Delf certificate*

Other Merits and Awards

2023 **Catalan Society of Mathematics**, *Évariste Galois prize for best MSc thesis in Catalonia*, honorable mention.

2021 **UCI**, *Electrical Engineering department fellowship*, awarded.

2021 **Balsells program**, *Balsells graduate fellowship*, awarded.

2020 **Google Hash Code**, *2nd team Spain*, 171th global.

2019 **Google Hash Code**, *1st team Spain*, 75th global.

2018 **Kernel Analytics Datathon**, *2nd place*, Accuracy when classifying Parkinson's Disease onset of symptomatology using sensor data.

2018 **Google Hash Code**, *1st team Spain*, 53rd global.

2015 **CFIS**, *CFIS scholarship*, awarded.

2015 **UAB - ARGÓ prize for excellence in a mathematics and programming project**, *awarded*, As part of my research project in high school I developed a free and open-source Android App called MAT. It allows users to solve some elementary math problems and is available on Google Play - click here to view.

2015 **Spanish Programming Olympiad**, *finalist*.

2014 **CIMS Cellex Program**, *shortlisted*.