

## J. Matias Di Martino

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### PROFILE

I am the Department Chair in Computer Science and Full Professor at UCU (Uruguay) and an Adjunct Research Professor at Duke University (US). I have extensive experience researching, educating, and providing professional consulting to partners in the industry. I love working on open-ended AI projects; my interests include computer vision, image processing, machine learning, remote sensing, and AI for health applications. I taught undergraduate and graduate courses at the university level, led large-scale research projects, and published over 50 peer-reviewed scientific papers in top journals and conferences. As key personnel and PI, I contributed to securing over \$15M in research funds and mentored several MSc. and Ph.D. students. For more information, please visit my [website](#). For an updated list of my recent publications, check my [Google Scholar profile](#).

### EXPERIENCE

2024-PRESENT **DEPARTMENT CHAIR (CS), UCU, UY**  
2024-PRESENT **FULL PROFESSOR (CS), UCU, UY**  
2024-PRESENT **ADJUNCT RESEARCH PROFESSOR, DUKE UNIVERSITY, US**  
2024-PRESENT **VISITING RESEARCH SCHOLAR, PRINCETON UNIVERSITY, US**  
2017-PRESENT **CONSULTANT** \*I CAN PROVIDE DETAILS UPON REQUEST  
2019-2024 **ASSISTANT RESEARCH PROFESSOR, DUKE UNIVERSITY, US**  
2016-2022 **ASSOCIATE PROFESSOR, UDELAR, UY**  
2018-2019 **POSTDOCTORAL ASSOCIATE, DUKE UNIVERSITY, US**  
2015-2016 **CHERCHEUR ASSOCIE, ECOLE NORMALE SUPERIEUR, FR**  
2011-2016 **TEACHING AND RESEARCH ASSISTANT, UDELAR, UY**

### EDUCATION

**UDELAR, UY** – PHD IN ENGINEERING AND SIGNAL PROCESSING, 2011-2015  
**UDELAR, UY** – ELECTRICAL ENGINEERING, 2005-2011 (RANKED 1<sup>ST</sup>/164)

### FELLOWSHIPS

Researcher level II SNI (Sistema Nacional de Investigadores, Uruguay). Researcher level 4 PEDECIBA (in Physics and Computer Science). IPOL Editorial Board (2018-2023). I am a reviewer for some of the top AI venues and conferences (including AAAI, CVPR, the Journal of Pattern Recognition, and Nature, among others).

### SKILLS

I have 15+ years of experience researching, designing, and deploying machine learning solutions. I have experience working with classical pattern recognition algorithms (e.g., decision trees, SVMs) and modern deep learning solutions. I am an expert in developing and implementing large-scale research projects to improve medical outcomes by leveraging computer vision and machine learning. In addition, I have extensive experience in developing image processing and 3D computer vision algorithms ([see list of publications for details](#)). I worked as a consultant and advisor for private and public companies (references and additional information can be provided upon request).

### RESEARCH

My main research interests are Machine Learning (a.k.a. AI), Image Processing, and Computer Vision (CV). Some of the projects Recently, my focus has been on how to use computer vision for autism screening and behavioral phenotyping ([in 2023, this work was highlighted by NIH as one of the top 5 scientific discoveries in health in the US](#)); how NLP can be leveraged to understand better ARFID, How CV can be exploited to improve Transcranial Magnetic Stimulation, how novel imaging paradigms can improve face recognition and prevent spoofing attacks; how time signals can be optimized to detect fraud for power companies. Check my latest publications and my recent research grants for more details.

I have 1400+ citations, an h-index 19, and published over 50 full papers in peer-reviewed international journals and venues, including health, machine learning, image processing, and optics. Please visit my [Google Scholar](#) profile for more details.

#### SUMMARY OF SELECTED PUBLICATIONS (FULL LIST HERE)

**(AI for Health)** New England Journal of Medicine: [Krishnappababu et al. 2024]; Nature Medicine: [Perochon et al. 2023]; Nature npc Digital Medicine [Perochon et a. 2023], Scientific Reports [Krishnappa et al. 2023]; Computers in biology and medicine [Schlesinger et al. 2024]; IJCARS: [Chaudhary et al. 2022]; IEEE TAC: [Krishnappababu et al. 2021]; IJED: [Kim et al. 2021]; JAMA Pediatrics: [Chang et al. 2021]; JCPP: [Perochon et al. 2020]. **(Computer Vision and AI)** TMLR: [Youzhou et al 2025, Kim et al. 2024]; The International Journal of Robotics: [Marzoa et al. 2024]; IEEE TIP: [Di Martino et al. 2020]; IEEE TPAMI: [Di Martino et al. 2020]; ICIP: [Di Martino et al. 2014]; ICCP: [Di Martino et al. 2020]; IPOL: [Di Martino et al. 2018], [Di Martino et al. 2016]; ICASSP: [Achddou et al. 2021]; ICPR: [Rodriguez et al. 2015], [Fiori et al. 2016]; ICPRAM: [Di Martino et al. 2012]; ICCVw: [Zhuoqing Chang et al. 2019]; JPR: [Di Martino et al. 2013]; JPRL: [Di Martino et al. 2013]. **(Energy)** IEEE TSG: [Massaferro et al. 2022]; TPS: [Massaferro et al. 2019]; ISGT: [Pablo Massaferro et al. 2021]; PESGM: [Mariño et al. 2023], [Massaferro et al. 2018]. **(Signal Processing and Optics)** AO: [Casaballe et al. 2020], [Ayubi et al. 2016], [Ayubi et al. 2014], [Flores et al. 2013], [Di Martino et al. 2012], [Ayubi et al. 2011]; OLE: [Di Martino et al. 2014], [Di Martino et al. 2015], [Di Martino et al. 2018]; OC: [Di Martino et al. 2013]; OL: [Ayubi et al. 2011], [Flores et al. 2012], [Ayubi et al. 2012], [Di Martino et al. 2013].

#### GRANTS AND AWARDS

Duke Institute for Brain Sciences, Research Germinator Award (2020-2021), Accurate, affordable, and easy-to-use navigation for transcranial magnetic stimulation, role: co-I (PIs: Drs. Peterchev, Sapiro, Goetz, and Turner). 1R01-MH129733-01 Accurate, low-cost, trackerless neuronavigation for transcranial magnetic stimulation, role: co-PI (2023-2027). NIH:R33-MH-121549 (2021- 2024), Feeling and Body Investigators (FBI)-ARFID Division: Sensory and Somatic Exposure for Children with Avoidant Restrictive Food Intake, role: co-I (PIs: Drs. Zucker and Sapiro). NIH:1R01-MH120093-02 (2019-2023), Scalable Computational Platform For Active Closed-Loop Behavioral Coding in Autism Spectrum Disorder, role: co-I, (PI: Drs. Dawson and Sapiro). UTE-UDELAR (2021-2023), Power disaggregation and identification via multi-scale information fusion, role: co-PI. UTE - CSIC (2018-2020), Decoupling domestic electricity consumption, role: co-PI. CSIC I+D (2017-2019), 3D Reconstruction with structured light, role: co-PI. CSIC PhD thesis award (2015), One-shot three-dimensional scene analysis. ANII PhD scholarship (2012). CSIC PhD scholarship (2012). CSIC Undergraduate Research Award (2011). FING-UDELAR Best undergraduate thesis award (2011).

#### TEACHING AND MENTORING

I have 15+ years of teaching experience, mentored Master's and Ph.D. students, and coordinated courses with over 1000 students. I also was responsible for undergraduate and graduate courses. I gave lectures in Physics, Electrical Engineering, Computer Vision, and AI at UCU, Duke, and UdeLaR.

#### LONG-TERM INTERNATIONAL COLLABORATIONS

PRINCETON UNIVERSITY (US). PROF. [SAPIRO](#).

DUKE UNIVERSITY (US) PROFS. [DAWSON](#), [PETERCHEV](#), [ZUCKER](#), [AQUINO](#).

ENS PARIS-SACLAY (FRANCE). PROFS. [MOREL](#), [FACIOLLO](#), [OUDRE](#).

UDELAR (URUGUAY). PROFS. [FERNANDEZ](#), [RANDALL](#), [TEJERA](#).

#### LANGUAGES

SPANISH: NATIVE. ENGLISH: FLUENT. FRENCH & ITALIAN: INTERMEDIATE.