

Alberto Di Biase

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Master in Electrical Engineer with an focus in magnetic resonance imaging (MRI) and medical imaging. I have experience working on deep learning research to accelerate and improve MRI. Currently I work as a research engineer at the iHealth Millennium Institute for Intelligent Healthcare Engineer in Santiago Chile

Education 🎓

- June 2020 Bs in Biomedical Engineering. Pontificia Universidad Católica de Chile
- November 2022 Electrical Engineering. Pontificia Universidad Católica de Chile
- November 2022 Master in Engineering Science. Pontificia Universidad Católica de Chile. Thesis: Intensity-based Deep Learning for SPION concentration estimation in MR imaging

Skills

- Software 🖥
 - MatLab
 - Python
 - JavaScript
 - C/C++ (basic)
 - Keras + Tensorflow
 - Pytorch
 - Wolfram Mathematica
 - Office
- Languages 🗣
 - Spanish (native)
 - English (advance)

Links 🔗

- Github <https://github.com/tito21>
- Blog <https://tito21.github.io>

Work History

- **Research Experience**
 - 2022 - present 🌐 Resarch Engineer, [iHealth Millennium Institute for Intelligent Healthcare Engineer](#)
 - Supervisor: Claudia Prieto Ph. D
 - Reconstruction of parametric maps from undersample MRI using physics informed neural networks.
 - Summer 2020 🌐 Tokio, Japan, Sekino Lab, University of Tokyo
 - Supervisor: Masaki Sekino Ph. D
 - Acquisition and simulation of MR imaging to quantify SPION concentrations in tissue using deep learning.
 - 2019 🌐 [Biomedical Imaging Center](#) PUC
 - Supervisor: Pablo Irrarazaval, Ph. D
 - Application of deep learning to improve undersampled MRI. + Participation in the fastMRI challenge <https://fastmri.org>.
 - Spring 2018 🌐 [Biomedical Imaging Center](#) PUC
 - Supervisor: Sergio Uribe, Ph. D
 - Liver segmentation from MRI using deep learning.
- **Internships**
 - Summer 2021 🌐 Santiago, [European Southern Observatory \(ESO\)](#)
 - Supervisor: Fernando Selman Ph. D
 - Develop a deep learning system to identify anomalies in calibration frames.
- **Teacher Assistance** 🎓
 - Spring 2021, Biomedical imaging
 - Fall 2021, Introduction to Biomedical Engineer, Signal and Systems
 - Fall 2019 and Spring 2020, Image processing fundamentals
 - Fall 2018, Calculus III Lab

Publications and Conference presentations

- Intensity-based Deep Learning for SPION concentration estimation in MR imaging, *1st Annual IIBM PhD. Symposium: "Advances in Biological and Medical Engineering"*. Santiago Chile, October 2022.

Extracurricular activities

- **Browser Extension UCaccess**, Developer
 - Allows easy and legal access to scientific papers through the university's proxy server.
 - Code and extension: <https://github.com/tito21/UCaccess>
- **Robotics**, Coach and Tutor 🤖
 - 2016 - 2017 One week workshop for 12-13 year old kids. Each kid could build and program their own mobile robot using the Arduino platform. I have also taught a similar workshop using the LEGO Mindstorm platform.
 - 2015 - 2016 Coach of a FIST LEGO League (FLL) team. The FLL challenge is an international robotics competition where each team has to develop a robot that solves a number of tasks and do a scientific investigation. In 2015 the team won the "Values" national prize.
- **Teleton Foundation**, Voluntary work
 - Summer 2018, Santiago
 - Help on the voluntaries' office.
 - Help organize summer event.