Alfredo De Goyeneche Macaya

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Education

- **University of California, Berkeley** — Berkeley, California
  PhD Student in Electrical Engineering & Computer Science. — *Aug. 2020 – Present*
  Advisor: Prof. Michael (Miki) Lustig. GPA: 4.0 / 4.0.
- **Pontificia Universidad Católica de Chile (PUC)** — Santiago, Chile
  Bachelor's Degree in Engineering. — *Mar. 2014 – Jul. 2018*
  Electrical Engineering Major, Computer Science Minor.
  GPA: 6.6 / 7.0. Ranked No.1 out of 875 students in my graduating class.
- **University of California, Davis** — Davis, California
  UCEAP Exchange Program, Computer Science & Engineering Major. — *Sep. 2017 – Mar. 2018*
  GPA: 4.0 / 4.0. Fall and Winter quarters. Dean's Honor List.

Work Experience

- **Google LLC** — Sunnyvale, California
  PhD Software Engineer Intern — *May. 2022 – Aug. 2022*
  Research on machine learning for differentially private synthetic data generation.
- **HeartVista Inc.** — Los Altos, California
  Machine Learning Software Engineer — *Jul. 2018 – Aug. 2020*
  Develop clinical level deep learning models for the first FDA-cleared self-driving MRI (Magnetic Resonance Imaging).

Teaching & Research

- **Graduate Student Researcher** — Berkeley Artificial Intelligence Research (BAIR)
  Advisor: Prof. Michael Lustig, Ph.D. — EECS Department, UC Berkeley
  Research in Machine Learning and Biofeedback for MRI. — *2020 - Present*
- **Graduate Student Instructor** — EECS Department, UC Berkeley
  EECS16A: Designing Information Devices and Systems I — *Fall 2022*
- **Research Assistant – Deep Learning Explainability** — CS Department, PUC
  Advisors: Prof. Álvaro Soto, Ph.D. and Prof. Juan Carlos Niebles, Ph.D. — CS Department, Stanford
  "Explaining VQA predictions using visual grounding and a knowledge base". — *2018 - 2019*
- **Computer Science Tutor** — UC Davis CS Tutoring, UCD
  Tutor for CS courses. Weekly tutoring office hours and occasional review sessions. — *Winter 2018*
- **Research Assistant – Sonification of 4D Flow MRI** — Biomedical Imaging Center, PUC
  Research Advisor: Prof. Pablo Irarrázaval, Ph.D. — *2016 - II*
- **Project Assistant** — Physics Department, PUC
  Supervisor: Prof. Juan Pedro Ochoa-Ricoux, Ph.D. — *2016 - I*
  Project: Facilitating the Understanding of University Physics through Class Experiments.
- **Teacher Assistant – Various Courses** — PUC
  Prepare and lead weekly discussions sessions. Took on average 2 positions per semester. — *2015 – 2018*
  Courses in Engineering, Physics, and Mathematics Departments:
  - *Advanced Python Programming*
  - *Data Structures & Algorithms*
  - *Electronics*
  - *Electromagnetic Theory*
  - *Electricity & Magnetism*
  - *Thermodynamics*
  - *Statics & Dynamics*
  - *Calculus I*
  - *Tennis I*

Awards & Fellowships

- **EECS Departmental Fellowship** — UC Berkeley
  Full tuition and fees plus stipend. — *Fall 2020*
- **Academic Excellence Graduation Award** — PUC
  Distinguished as rank 1st scholar of the Engineering B.S. graduation promotion at PUC. — *Oct. 2018*
- **Dean's Honors List, College of Engineering** — UC Davis
  Distinguished in both quarters of my exchange program. — *Fall 2017, Winter 2018*
- **Highest Score in Fundamentals of Engineering Examination** — PUC
  Tested in Feb. 2017 at PUC (1st out of 530 students). — *Apr. 2017*
- **Engineering Honours Scholarship – *Matrícula de Honor*** — PUC
  Distinguished as top scholar of the engineering promotion 2014 in PUC. (1st out of 875 students) — *Mar. 2017*
- **Engineering Honours Scholarship – *Matrícula de Honor*** — PUC
  First year 100% Scholarship because of Entry Tests Scores – PSU. — *Mar. 2014*
- **National Admissions Test Double Award** — Government of Chile
  Doble Puntaje Nacional. Perfect Score in Math and Science Tests for Chilean college entry National Examinations (top 0.002% of total applicants). Equivalent to SAT. — *Dec. 2013*

Publications & Presentations

- **ResoNet: Physics Informed Deep Learning based Off-Resonance Correction Trained on Synthetic Data**: **A. De Goyeneche**, S. Ramachandran, K. Wang, E. Karasan, S. Yu, M. Lustig. In proceedings of the 31st ISMRM Annual Meeting and Exhibition, UK, 2022 (Oral)
- **Rigorous Uncertainty Estimation for MRI Reconstruction**: K. Wang, A. Angelopoulos, **A. De Goyeneche**, A. Kohli, E. Shimron, S. X. Yu, J. Malik, M. Lustig. In proceedings of the 31st ISMRM Annual Meeting and Exhibition, UK, 2022 (Oral)
- **BladeNet: Rapid PROPELLER Acquisition and Reconstruction for High spatio-temporal Resolution Abdominal MRI**: E.Shimron **A. De Goyeneche**, K. Wang, A. B. Syed, S. Vasanawala, M. Lustig. In proceedings of the 31st ISMRM Annual Meeting and Exhibition, UK, 2022 (Oral)
- **High Fidelity Deep Learning-based MRI Reconstruction with Instance-wise Discriminative Feature Matching Loss**: K. Wang, J. I. Tamir, **A. De Goyeneche**, U. Wollner, R. Brada, S. Yu, M. Lustig. Magnetic Resonance in Medicine.
- **Deep-Learning-Based Motion Correction For Quantitative Cardiac MRI**: **A. De Goyeneche**, S. Tang, N. O. Addy, B. Hu, W. Overall, J. M. Santos. In proceedings of the 30th ISMRM Annual Meeting and Exhibition, Online, 2021 (Oral)
- **Explaining VQA predictions using Visual Grounding and a Knowledge Base**: F. Riquelme*, **A. De Goyeneche***, Y. Zhang, J. C. Niebles, A. Soto. Journal publication at *Image and Vision Computing*. 2020. (*Equal contribution.)
- **One-Click Spine MRI**: **A. De Goyeneche**, E. Peterson, J. J. He, N. O. Addy, J. M. Santos. Abstract and poster presentation at *Medical Imaging meets NeurIPS Workshop*. Vancouver, Canada. 2019.
- **Automated Cardiac Magnetic Resonance Imaging**: **A. De Goyeneche**, N. O. Addy, J. M. Santos, B. Hu. Abstract and poster presentation at *American Heart Association Scientific Sessions*. Philadelphia, Pennsylvania. 2019.
- **Rapid Automated Cardiac Imaging**: **A. De Goyeneche**, N. O. Addy, E. Peterson, H. Islam, W.R. Overall, J. M. Santos, B. Hu. Abstract and poster presentation at *Frontier of AI-Assisted Care (FAC) Scientific Symposium.* Stanford, California. 2019.

Languages & Skills

- **Laguages**: Spanish (Native), English (TOEFL iBT: 111/120)
- **Programming Languages**: Python, Matlab, C++, C.
- **Deep Learning Frameworks**: Pytorch, TensorFlow, JAX, Caffe.