Adrián Sager La Ganga

Willing to relocate
+41 78 327 58 57
adriansagerlaganga@gmail.com
sager611.github.io/

linkedin.com/in/a-sager/
GitHub @Sager611
GitLab @adriansagerlaganga

Education

Master of Science, Computational Science & Engineering, EPFL, Final GPA: 5.57/6.00 **Sep. 2020 — Feb. 2023**

- Advanced algorithms (6.00/6.00)
- Machine learning (5.75/6.00)
- Advanced multiprocessor architecture
- Numerical analysis and computational mathematics
- Computational finance

Bachelor of Science, Computer Engineering, Polytechnic University of Turin, Final grade: 110/110 **Oct. 2017 — Jul. 2020**

Experience

IBM Research Intern **Aug. 2023 — Jan. 2024**
IBM Research Zürich Zürich, Switzerland

AI Fullstack Co-Founder **Jun. 2023 — Present**
DevGenius.ai Zürich, Switzerland

- Ideated and developed an end-to-end prototype

IBM Master Thesis **Sep. 2022 — Jan. 2023**
IBM Research Zürich Zürich, Switzerland

- Generated sustainable chemical reactions by employing uncertainty quantification (UQ) techniques on language models (LMs) for potential use in the team's *RXN for Chemistry* product

System Engineer Intern (Full-time) **Mar. 2022 — Sep. 2022**
Beyond Gravity Zürich, Switzerland

- Improved C++ rover simulation software for ESA's ExoMars mission:
  - Devised, proved, and demonstrated novel numerical integration method to achieve arbitrary accuracy on the critical wheel-soil interaction model, improving the error term from $O(\Delta t)$ to $O(\Delta t^n)$ for any n
  - Achieved $> \times 3.0$ speedup with SIMD matrix operations, better code structure, and concurrency
  - Devised a novel terrain denoising algorithm based on Gaussian process regression (GPR), enabling experimentation on NASA's HiRISE Mars terrain data

Data Scientist Intern (Full-time) **Mar. 2020 — May. 2020**
Dynatrace Hagenberg campus (Linz), Austria

- Presented Python-to-Java pipeline to translate the 7-person team's research into production

Awards & Publications

2023 P. Oettershagen, **A. Sager La Ganga**, M. Goury du Roslan, et al. DynRPAT: A Novel Parametric Analytical Tool to Efficiently Simulate High-Speed or Low-Gravity Locomotion Conditions for Planetary Exploration Rovers. *ESA ASTRA symposium*, 2023.

2022 **Young Talents Fellowship** from the Swiss *National Centres of Competence in Research* foundation

2019 *European Innovation Academy*, 3-week startup competition (∼200 participants):

- **Awards** : **U.S. Provisional Patent** from Nixon Peabody; **Top Team**; *HAG Venture Accelerator award*; *10-day Project and People Management Summer School*
- Selected as CTO in a team of 5 ideating and presenting a prototype for safer space travel, including an investor pitch

Eta Kappa Nu member (electrical engineering and computer science honor society)

2018 Awarded *Like@Home* hackathon *Reply* prize: Innovate in 24h in a team of 5 using Google's Voice Kit

2017 **Scholarship** *ToPolito* (**top 17** best performing international engineering students)

Young Talents Project member (**top 5%** best performing engineering students)

Projects & Research

Computer Vision to stabilize video of a fly's neural activity, Ramdya Lab (EPFL), 6.00/6.00 **Sep. 2021 — Jan. 2022**

- Created $\times 770\%$ faster and $\times 186\%$ lower MSE transform than baseline
- Achieved $\times 1.4$ asymptotic speedup on optimal transport baseline using GPU
- Designed a novel unsupervised metric based on the Wasserstein distance founded on desired properties, proven convergence, and conceptual accuracy

github.com/Sager611/stabilize2p

Deep Learning to predict star properties, Laboratory of Astrophysics (EPFL), 6.00/6.00 **Mar. 2021 — Jul. 2021**

- $+20\%$ performance over baseline by employing a Locally Connected Network with uncertainty estimation
- Enabled the generation of new stellar spectra through a multi-task denoising autoencoder
- Allowed researchers to capitalize on deep learning architectures by creating a model training and inference framework

CNN inference on FPGA, Computer Architecture course (Polytechnic University of Turin), 30/30 cum laude **Mar. 2019 — Jul. 2019**

- Optional extra project in a team of 3 with a topic of our choosing
- Programmed 6 CNN layers for inference in an FPGA: 2D Convolution, Max/Mean Pooling, and Sigmoid/ReLu/Tanh activations

gitlab.com/adriansagerlaganga/pynq-cnn-caffe

Languages

- English (fluent)
- Italian (fluent)
- Spanish (native)
- German (B1.1)
- French (B1.1)

Skills

Programming

- Python for AI (PyG/Keras/transformers/sklearn/xgboost/OpenCV)
- C/C++
- Backend (AWS/Docker/SQL)
- Frontend (Node.js/HTML)

Teamwork

- Agile Scrum
- JIRA
- Git