Sofia Alvarez

: sofia.alvarez@example.com
: sofia-alvarez.dev :
github.com/salvarez-dev

Education

ETH Zurich — Zurich, CH
M.S. in Computer Science, GPA: 5.71/6.00 — 2020–2022

- Thesis: "Uncertainty-Aware Trajectory Forecasting for Urban Cyclists"

Universidad Politécnica de Madrid — Madrid, ES
B.S. in Computer Engineering, GPA: 3.94/4.00 (ranked 3^{rd}/210 in the dept.) — 2015–2020

- Thesis: "RouteSim: A discrete-event simulator for last-mile delivery routing"

Experience

ETH Zurich — Zurich, CH
Student Research Assistant at Autonomous Systems Lab — Summer 2021

- Uncertainty calibration for pedestrian trajectory prediction
- Adapted an existing forecasting pipeline to output calibrated predictive intervals, ran evaluation across three public urban-mobility datasets

Zalando SE — Berlin, DE
Research Intern, Applied Machine Learning — Summer 2020

- Demand forecasting for seasonal inventory
- Built data pipelines for weekly demand signals, prototyped a gradient-boosted forecasting model that reduced backtest error by 12% over the existing baseline

Universitat Politècnica de Catalunya — Barcelona, ES
Research Intern at High Performance Computing group — Summer 2019

- Scheduling analysis for heterogeneous compute clusters
- Profiled job scheduling overhead across mixed CPU/GPU workloads and proposed a queueing policy adopted in the group's internal cluster

Publications

[1] **S. Alvarez**, M. Roth, and L. Fischer, "Uncertainty-Aware Trajectory Forecasting for Urban Cyclists", in *2022 IEEE Intelligent Vehicles Symposium (IV)*, Jun. 2022, pp. 410–417.

Teaching

- **Student Teaching Assistant** at Universidad Politécnica de Madrid — Spring 2020
  Data Structures and Algorithms (INF-230)
- **Student Teaching Assistant** at Universidad Politécnica de Madrid — Fall 2018
  Introduction to Programming (INF-101)

Skills

- **Programming:** Python, C++, Java, R
- **M. Learning:** PyTorch, scikit-learn, XGBoost
- **Tools/Techs:** LaTeX, Git, SQL, Docker
- **Web:** HTML/CSS, JavaScript

Languages

- **English:** Proficient, TOEFL iBT score: 108/120
  – **GRE:** V: 158/170, Q: 168/170, AW: 4.5/6.0
- **Spanish:** Mother tongue, native speaker
- **German:** Conversational, CEFR level: B1

Projects

See full list of projects on sofia-alvarez.dev/projects

- **routesim** (Python, 2020)
  Discrete-event simulator for last-mile delivery routing
- **traj-uq** (Python/PyTorch, 2021)
  Calibrated uncertainty estimates for trajectory forecasting

Scholarships and Awards

- ETH Zurich Excellence Scholarship — 2020–2022
- 2^{nd} place, UPM Engineering Demo Day, final year project exhibition of the department — 2020
- Erasmus+ Traineeship Scholarship — 2019
- Summer@UPC Scholarship — 2019
- UPM Foundation Scholarship for Outstanding Success — 2015–2020
- Merit based National Scholarship — 2015–2020

Volunteering & Mentoring

- Career Mentor at Bridge to Tech — 2019–Current
  Helping undergraduate students on their career goals, also took part in mentoring circles
- Welcome Day Helper at ETH Zurich — Fall 2021
  Mentored newcomer Master students, gave a campus tour and aided them in study planning
- Introductory Programming Tutor at Code for Madrid — Fall 2018
  An introduction to programming for non-CS undergraduates