Nasib Adriano Naimi

Swiss Citizen, born 28.08.1998
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Education

09.2021 - Present **MSc. in Electrical Engineering & Information Technology** Zurich, CH
GPA: 5.63/6 | Eidgenösische Technische Hochschule Zürich (ETH Zürich)
Specialising in Signal Processing and Machine Learning.

09.2017 - 09.2021 **BSc. in Electrical Engineering & Information Technology** Zurich, CH
GPA: 5.33/6 | Eidgenösische Technische Hochschule Zürich (ETH Zürich)

Experience

10.2021 - Present **Research Assistant** - Autonomous Systems Lab ETH Zurich Zurich, CH
- 30% employment to improve the DroGone prototype for a Demo for NATO SPS

02.2022 - 06.2022 **Teaching Assistant** - Networked Systems Group ETH Zurich Zurich, CH
- For the course *Communication Networks* taught by Prof. Laurent Vanbever

03.2021 - 09.2021 **Co-Founder** - DroGone Zurich, CH
- Integrated and developed algorithm for fusion of mmWave sensor and RGB camera.
- Integration of mobile hardware accelerator.
- Co-developed multicopter detection algorithm based on YoloV4 architecture.
- Secured financing of CHF 140'000+ for R&D of drone-catching drone.

Publications

11.2022 **Multi-robot System for Autonomous Cooperative Counter-UAS Missions: Design, Integration and Field Testing** SSRR 2022
- Propose the use of a multi-robot system for autonomous and cooperative counter-UAS missions with acompanying field experiments.
- Published in Main Conference as Oral Presentation, SSRR 2022.

07.2022 **Adversarial Defense in Self-Supervised Vision Transformers** ICML 2022
- Research for the course *Deep Learning Fall 2021* offered at ETH Zurich. Grade: 6/6.
- Explored the emerging properties of adversarial attacks on vision transformers trained using DINO and defense strategies.
- Published in the workshop *New Frontiers in Adversarial Machine Learning*, ICML 2022.

Projects

11.2022 - Present **Safe Reinforcement Learning** | Python, JAX, Git
- Semester project with Prof. Roland Siegwart at the Autonomous Systems Lab of ETH Zurich titled *Reinforcement learning for implicit Landing Site Detection and Autonomous Landing of MAVs*.
- Implemented a reinforcement learning agent running in an Unreal Engine scene. Studied the feasibility of reinforcement learning for landing an autonomous aerial robot in unknown settings using RGB image information. Grade: 5.75/6.

10.2020 - 03.2021 **Reinforcement Learning for Landing Site Detection** | Python, PyTorch, Unreal Engine, Git
- Semester project with Prof. Roland Siegwart at the Autonomous Systems Lab of ETH Zurich titled *Reinforcement learning for implicit Landing Site Detection and Autonomous Landing of MAVs*.
- Implemented a reinforcement learning agent running in an Unreal Engine scene. Studied the feasibility of reinforcement learning for landing an autonomous aerial robot in unknown settings using RGB image information. Grade: 5.75/6.

09.2019 - 09.2020 **Focus Project DroGone** | C++, ROS, Python, Git
- A one year long student project offered by ETH Zurich and industry partners.
- Worked with Prof. Roland Siegwart to build an autonomous drone-catching drone.

- Co-lead of the software team. Developed tracker based on Extended Kalman Filters.
- Acquired 5 sponsors (cantonal police department of Zurich, Aurora Aerospace).
- Achieved a grade of 5.75/6.

Activities

09.2018 - 12.2020 **Vice President of External Relations** - Unicorn Labs — Zurich, CH

- A non-profit helping entrepreneurs build MVPs in a hackathon-like setting.
- Initiated the Rainbow Road challenge: Challenge for students to pitch their idea for the chance to win a MVP building session. Acquired 4 partners and sponsors.
- Facilitated or participated in 5 hackathons, generating CHF 10'000+ in revenue.

09.2018 - 06.2019 **Committee Member Finance Team** - ETH Entrepreneur Club — Zurich, CH

- Maintained relationships with corporate sponsors. Assisted in operations for events.

Competitions

11.2022 **Junction 2022** | 2nd Place - Crypto Trading Helper — Espoo, FI

- Competed in the largest hackathon in Europe with 1300 participants.
- Implemented AI powered indicators to enhance algorithmic trading of cryptocurrencies by classified sentiment on Twitter and Kline information to predict the whether volatility, volume, or price will rise or fall.
- Runner up in the *Crypto Trading Helper* Challenge

02.2020 **Mohammed Bin Zayed International Robotics Competition** | Grand Challenge — UAE

- The MBZIRC is an international robotics competition between leading universities of the world. Three challenges are presented, each meant to be completed by autonomous robots.
- Worked on challenge 1: Intercept a ball attached to a drone flying in the arena with an autonomous drone.
- Participated as a part of the ETH Zurich team.

04.2016 **Swiss Young Physicists Tournament (SYPT)** | 2nd Place — Zurich, CH

- The SYPT is an annual competition where students investigate one of 16 pre-selected problems, present their findings, and defend their hypothesis in front of a jury.
- Investigated Magnetic Train: battery with magnets propels through solenoid.
- Devised experiments to determine which parameters affected the terminal velocity and acceleration and consolidated findings with theory.

Skills

Programming Languages	Python(strong), C/C++(strong), Bash, Java, HTML/CSS, LaTex
Frameworks & Libraries	Eigen, ROS, PCL, libigl, Pandas, NumPy, PyTorch, JAX, Open MPI, Open MP
Languages	English(Native), German(Native), French(Fluent), Italian(Fluent), Mandarin(Basic)