

Nasib Adriano Naimi

Swiss Citizen, born 28.08.1998

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Education

09.2021 - Present	MSc. in Electrical Engineering & Information Technology GPA: 5.63/6 Eidgenössische Technische Hochschule Zürich (ETH Zürich) Specialising in Signal Processing and Machine Learning.	Zurich, CH
09.2017 - 09.2021	BSc. in Electrical Engineering & Information Technology GPA: 5.33/6 Eidgenössische Technische Hochschule Zürich (ETH Zürich)	Zurich, CH

Experience

10.2021 - Present	Research Assistant - Autonomous Systems Lab ETH Zurich • 30% employment to improve the DroGone prototype for a Demo for NATO SPS	Zurich, CH
02.2022 - 06.2022	Teaching Assistant - Networked Systems Group ETH Zurich • For the course <i>Communication Networks</i> taught by Prof. Laurent Vanbever	Zurich, CH
03.2021 - 09.2021	Co-Founder - DroGone • 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.	Zurich, CH

Publications

11.2022	Multi-robot System for Autonomous Cooperative Counter-UAS Missions: Design, Integration and Field Testing • Propose the use of a multi-robot system for autonomous and cooperative counter-UAS missions with accompanying field experiments. • Published in Main Conference as Oral Presentation, SSRR 2022.	SSRR 2022
07.2022	Adversarial Defense in Self-Supervised Vision Transformers • Research for the course <i>Deep Learning Fall 2021</i> 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 <i>New Frontiers in Adversarial Machine Learning</i> , ICML 2022.	ICML 2022

Projects

11.2022 - Present	Safe Reinforcement Learning Python, JAX, Git • Semester project with Prof. Andreas Krause at the Learning and Adaptive Systems Lab of ETH Zurich • Formulating and implementing novel algorithm for safe exploration in reinforcement learning to enable safe adaptation in sim2real problems.
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 <i>Reinforcement learning for implicit Landing Site Detection and Autonomous Landing of MAVs</i> . • Trained a reinforcement learning agent in an Unreal Engine environment. 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • Maintained relationships with corporate sponsors. Assisted in operations for events. 	

Competitions

11.2022	Junction 2022 2nd Place - Crypto Trading Helper	Espoo, FI
	<ul style="list-style-type: none"> • 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 <i>Crypto Trading Helper</i> Challenge 	
02.2020	Mohammed Bin Zayed International Robotics Competition Grand Challenge	UAE
	<ul style="list-style-type: none"> • The <u>MBZIRC</u> 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
	<ul style="list-style-type: none"> • The <u>SYPT</u> 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)