Eric Richter

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Education

ETH | Zürich, Switzerland
Master of Science in Mechanical Engineering (GDP 5.49/6) March 2025
- Majored in micro- nanosystems and robotics

EPFL | Lausanne, Switzerland
Master of Science in Microengineering (Discontinued after 61ECTS, GDP of 5.3/6) July 2022
Bachelor of Science in Microengineering (GDP of 5.23/6) July 2021
- Majored in micro- and macro- scale electrical, mechanical, and materials engineering

USJ | Beirut, Lebanon
Off-Curriculum International Relations Studies December 2017

Relevant Experience

Boston University | Boston, MA USA
Research Fellow September 2024–June 2025
- Fabricated and tested stencils and sensors for thermal wave sensing of bulk and multi-layer materials for battery applications.
- Implemented a Python multi-physics simulation of 4 coupled processes: advection, film diffusion, pore diffusion, adsorption.
- Challenged 5+ assumptions made in the design of an adsorption test chamber with COMSOL simulations, redesigned and built a completely simulation-validated improved version, which runs 6x faster.

Sensirion AG | Stäfa, Switzerland
Engineering Intern September 2023–February 2024
- Achieved state-of-the-art accuracy with a self-made humidity sensor, costing 1% of the alternatives.
- Iterated through 3 rapid hardware prototyping cycles.
- Stabilized a metastable system with integrated control, reducing stabilization time by 50% compared to industrial alternatives.

ETH | Zürich, Switzerland
Research Assistant at EIS in the Institute for Neuro-Informatics February–June 2023
- Tested the limits of a novel evolutionary algorithm for training spiking neural networks that perform on the edge.

ShARE EPFL | Lausanne, Switzerland
Mentor, Consultant September 2020–June 2022
- Led and mentored 25+ members on their respective cases.
- Collaborated with EPFL's startup accelerator by completing the product-market fit analysis for 3 startups.

EPFL | Lausanne, Switzerland
Research Assistant at LMIS1 February–June 2022
- Created, simulated and optimized a class of thermally sensitive electro-magnetically coupled superconducting resonators.
- Achieved quality factor Q>5000, and generated 15+ highly valuable physical design insights.

Research Assistant at MOBOTS September 2021–January 2022
- Automated a laser vibrometer system using CNC technologies, reducing bee comb characterization time from 2[h] to 120[s].
- Extracted valuable data from 1/10 SNR data and generated 3 insights for future design.

Teaching Assistant in Mathematical Analysis February–July 2021

Volunteering

Panel Discussion | Zürich, Switzerland
Host, Event Organizer January–May 2024
Moderated a debate between 1 lobbyist and 2 academics around carbon pricing in front of a 200+ person audience.

ShARE EPFL | Lausanne, Switzerland
Interim Vice-President June 2020–November 2022

Relevant Achievements

iGEM Competition | Cambridge, MA (USA)
Head Engineer, Gold Medal, Best Website, Best Environmental Project Nomination February–November 2021
- Prototyped a bioreactor for bioremediation of heavy metals from the environment capable of continuously processing 5dl/min
- Involved 3 stakeholders, raised awareness around the issue in 2 high schools and through a 4 episode podcast.

Certifications

SHARE's Leadership Programme of Excellence | International June 2022
Arabic Elementary Level | Saifi Institute for Levantine Arabic of Beirut December 2017
Conservatory Certificate For End Of Piano Studies | COV, Nyon July 2017
Swedish Conversational Level | Folkuniversitetet in Stockholm July 2015

Additional Skills

Languages: English(Native); French(Native); German(Proficient); Swedish(Conversational);
Programming proficiency: Python (pandas, numpy, pytorch); C++; C; Arduino; Assembly; VHDL; Matlab;
Engineering Software: Multiphysics simulation (COMSOL); CAD (CATIAV5, Fusion 360); Circuit simulation (LtSpice); Hardware programming (Vivado Suite, Quartus);
Clean room Processes: Photolithography; Sputtering; Bosch process; HF etching; ALD; Wire bonding; SEM;
Personal: Multidisciplinary; Multicultural; Positive; Self and objective driven;