

ERIC RICHTER

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Supporting documents: <https://github.com/errichter/CV>

SUMMARY

What I bring to any team is a polytechnical skill set and a strong work ethic. I learn fast, work effectively, and strive for personal and team growth. I'll rise up to the challenge with creativity, kindness, drive, and high standards for quality.

EDUCATION

BU, Boston University

Academic Research Project in the Lubner Group

Boston MA, United States

Sep. 2024 - Feb 2025

ETHZ, Swiss Federal Institute of Technology

MSc in Mechanical Engineering GPA: 5.49 (max 6)

Zürich, Switzerland

Sep. 2022 - Mar 2025

EPFL, Swiss Federal Institute of Technology

MSc in Micro- Engineering GPA: 5.30 (max 6) (discontinued)

Lausanne, Switzerland

Sep. 2021 - Aug. 2022

EPFL, Swiss Federal Institute of Technology

BSc in Micro- Engineering GPA: 5.23 (max 6)

Lausanne, Switzerland

Sep. 2018 - Jun 2021

USJ, Saint-Joseph University of Beirut

Off-Curriculum Studies

Beirut, Lebanon

Sep. 2017 - Dec. 2017

CESS, Gymnase de Nyon (High-School)

Specialization in Physics and Music GPA: 5.49 (max 6)

Nyon (VD), Switzerland

Sep. 2014 - Jul. 2017

- Prize of best student in Physics
- Prize of best student in Biology

WORKING EXPERIENCE

The Lubner Group at Boston University

Research Fellow

Boston, MA, United States

Feb. 2025 - Current

- Main Task: Aid in the development of a thermal wave sensor (cleanroom and electronics). Numerical simulation of mass transport in Python.

Sensirion

R&D Engineering Intern

Stäfa, Switzerland

Sep. 2023 - Feb. 2024

- Main Task: Proof of concept of a next generation humidity reference using PID control of a metastable system in C++ and Arduino.
- Results: State of the art accuracy achieved with 1/100th price.

EPFL

Teaching Assistant in Mathematical Analysis

Lausanne, Switzerland

Feb. 2021 - Jul. 2021

- Main Task: Supervising exercise/quiz sessions twice a week.

Swiss Army

Intelligence Soldier in the Air Force

Switzerland

Feb. 2018 - May. 2018

ACADEMIC PROJECTS

Master's Thesis on the Theme of Mass Transport in Solid Sorbent

ETHZ - BU

Lubner Group in the MSE Departement of Boston University

Sep. 2024 - Feb. 2025

- Task: Building and understanding a toy Python numerical model, its insights about the model physics and its limitations.
- Methods: Explicit numerical simulation of the diffusion-reaction equation based on Fick's diffusion and Langmuir reaction kinetics.
- Results: Although insightful as to the mechanics underlying adsorption kinetics in porous media and the dangers of fitting data unconsciously, the numerical method used and physical model chosen are too computationally intensive and insufficiently separable to be more relevant than semi-empirical models.

Machine Learning Semester Project

ETHZ - UZH

Emerging Intelligent Substrates Group at the Institute for Neuro-Informatics (INI)

Mar. 2023 - Jul. 2023

- Task: Discovery of a low-power neural architecture through evolutionary methods for solving the spiking Heidelberg digits (SHD) dataset.
- Methods: Genetic algorithm applied to nodes, connections, and delays of a sparsely connected random network to obtain solution networks with small world properties suitable for low power few shot learning on the edge.
- Results: slow convergence of the evolutionary method and impossibility of escaping local minima show the method is ineffective for this task.

Nano-Engineering Semester Project

EPFL

Micro-Systems Laboratory

Feb. 2021 - Jun. 2022

- Task: Design of a superconducting electromagnetic S-shaped resonators for high accuracy resonance frequency based parallelized temperature measurements in cryostats for quantum computing applications.
- Methods: COMSOL electromagnetic simulations toolbox.
- Results: Scientific paper abstract was submitted for presentation at CERN.

Robotics Semester Project

EPFL

Mobile Robotics Lab as a part of the Hiveopolis Project

Sep. 2021 - Jan. 2022

- Task: Design, fabrication and automation of a 1D measurement system for vibrational characterization of tweaked bee combs for human-bee communication.
- Methods: 3D printing, machining and mounting of a screw based linear displacement actuator. RPi controlled stepper motor programmed with trapezoidal acceleration profiles in Python. Vibrational data collected with a laser Doppler vibrometer.
- Results: Working automated measurement system submitted and built upon.

EXTRACURRICULAR PROJECTS

ShARE's Leadership Program

EPFL - International

Consultant and Team Leader

Sep. 2020 - Nov. 2022

- Interim Vice-Presidence (2022): Planning and organization of the 2022 Autumn Semester.
- Consultant for a start-up in Online Shopping (2022): Second hand online clothing platforms.
- Consultant for a start-up in Luxury (2021): High-end tech-watches.
- Consultant for a start-up in Medical Devices (2021): AI enhanced stethoscope for lung disease diagnosis.

International Genetically Engineered Machine Competition (IGEM)

EPFL

Head Engineer and Laboratory Technician

Feb. 2021 - Nov. 2021

- Description: design and synthesis of a yeast cell capable of filtering copper from water for depollution of the soils in vineyards.
- Project: project selection, definition, literature review, and planning of experimental and technical tasks.
- Communication: stakeholder interviews, school visits, production of a podcast (on spotify).
- Technical: design, prototyping, and testing of a bioreactor for continuous treatment of water. Laboratory support for biological and chemical procedures and experiments.
- Results: Gold medal, prize for best website, nomination for best project in the environmental category.

LEADERSHIP

Event Organizer for the Energy Students Student Committee (EMC2)

ETHZ - EMC2

Host

May 2024

- Main Task: Organization and hosting of a panel discussion between experts on carbon pricing policies in Europe and in Switzerland and their alternatives.

Vice-President for EPFL at ShARE's Leadership Programme

EPFL

Vice-President

Mar. 2022 - Dec. 2022

- Task: Planning and organizing the local association with respect to the university and business partners.
- Results: Secured a set of start-ups and teams to work on consulting projects. Set up training plan for mentors as well as new arrivals in the association.

Team Leader at ShARE's Leadership Programme

EPFL

Mentor

Sep. 2021 - Dec. 2021

- Training of the next generation of "do well do good" ShARE EPFL consultants.

LANGUAGES

English (Native), **French** (Native), **German** (Proficient), **Swedish** (Intermediate), **Italian** (Beginner), **Levantine Arabic** (Beginner)

PROGRAMMING LANGUAGES

Proficient: Python, C++

Intermediate: Arduino, C, VHDL, Matlab.

Familiar: Java, C#, Javascript

PERSONAL INTERESTS

Sports: Mountain Sports, Water Sports, Bouldering, Tennis, Ice Hockey.

Music: Formally trained as a pianist, informally playing any other instrument I can get my hands on.

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