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, curiosity, positivity, kindness, drive, and high standards for quality.

EDUCATION

BU, Boston University — Boston MA, United States
Academic Research Project in the Lubner Group — *Sep. 2024 - Feb 2025*

ETHZ, Swiss Federal Institute of Technology — Zürich, Switzerland
MSc in Mechanical Engineering ***GPA:*** *5.39 (max 6)* — *Sep. 2022 - Mar 2025 (Expected)*

EPFL, Swiss Federal Institute of Technology — Lausanne, Switzerland
MSc in Micro- Engineering ***GPA:*** *5.30 (max 6) (discontinued)* — *Sep. 2021 - Aug. 2022*

EPFL, Swiss Federal Institute of Technology — Lausanne, Switzerland
BSc in Micro- Engineering ***GPA:*** *5.23 (max 6)* — *Sep. 2018 - Jun 2021*

USJ, Saint-Joseph University of Beirut — Beirut, Lebanon
Off-Curriculum Studies — *Sep. 2017 - Dec. 2017*

CESS, Gymnase de Nyon (High-School) — Nyon (VD), Switzerland
Specialization in Physics and Music ***GPA:*** *5.49 (max 6)* — *Sep. 2014 - Jul. 2017*

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

WORKING EXPERIENCE

The Lubner Group at Boston University — Boston, MA, United States
Research Assitant — *February. 2025 - Current*

- Main Task: Aid in the development of a thermal wave sensor. Numerical simulation of mass and heat transport.

Sensirion — Stäfa, Switzerland
R&D Engineering Intern — *Sep. 2023 - Feb. 2024*

- Main Task: Proof of concept of a next generation humidity reference.
- Results: State of the art accuracy achieved with 1/100th price.

EPFL — Lausanne, Switzerland
Teaching Assistant in Mathematical Analysis — *Feb. 2021 - Jul. 2021*

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

Swiss Army — Switzerland
Intelligence Soldier in the Air Force — *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: Understanding a toy numerical model, its insights 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: Evolutionary method proven 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 is 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. 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, Sensitization of school children, production of a podcast (Spotify link here).
- 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

- 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** (B2-C1), **Swedish** (B1), **Italian** (A2), **Levantine Arabic** (A1)

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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