Martin HOLUB

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Personal Statement

Bioengineer in making, passionate about both Biology and Engineering and intrigued by the intersection between natural and artificial. My aim is to create sustainable value at this intersection for the benefit of society and customer.

Education

Swiss Federal Institute of Technology (ETH), Zürich, Switzerland
MSc. in Mechanical Engineering, specialization Bioengineering Sept 2016 – ongoing

- Semester project at Biofabrication and Tissue Engineering Lab ("A novel extrusion system for bioprinting, a comparative study") - Grade 5.75
- ETH Week Award for "The Most Fascinating Science", Thermodynamics and Energy Conversion in Micro- and Nanoscale Technologies – Best Poster Award
- Selected courses: **Biology**: Practical Methods in Tissue Engineering, Synthetic Biology, Energy Conversion and Transport in Biosystems, Protein Biophysics. **Engineering:** Microscale Acustofluidics, Stochastic Methods for Engineers and Natural Scientists, Cross-Disciplinary Research and Development in Medicine and Engineering, Applied Analysis of Variance and Experimental Design, Soft Materials, Bioelectronics & Biosensors, Wearable Systems, Biofluiddynamics, Quantitative Flow Visualization, Advanced CFD Methods, Hardware/Software Codesign. **Data Science:** Machine Learning, Statistical Analysis of High-Throughput Genomic and Transcriptomic Data, Quantitative Big Imaging, …

Brno University of Technology (BUT), Brno, Czech Republic
B.Sc. in Mechanical Engineering Sept 2013 – August 2016

- GPA 1.03 from 203 credits, Honeywell award for outstanding thesis, GE Foundation Scholar-Leaders Award
- Bachelor thesis "Cavitation in Microfluidics": CFD for 2-phase flow in microfluidic device in Fluent
- Selected courses: Microsensors and MEMS, Fluid Dynamics, Thermodynamics & Heat Transfer, Numerical Methods, Strength of Materials, Finite Element Method & ANSYS, Dynamics, Machine Learning, Automation, Engineering Design, Introduction to Material Science

Relevant Experience

Institute of Pharmacology and Toxicology, University of Zürich Zürich, Switzerland
Research Assistant Nov 2016 – ongoing

- Image processing and data analysis in the Experimental Imaging & Neuroenergetics group
- Developing algorithms in Python and Matlab (spectral unmixing, motion correction, automatic cell segmentation, …) to support ongoing research in the cell-to-cell communication pathways involved in energy metabolism and information processing in cerebral cortex

Laboratory of Sensors and Nanosystems, Central European Institute of Technology (CEITEC)
Brno, Czech Republic
Jun 2016 – Aug 2016

Research Assistant

- Microfluidics: soft lithography, chip interfacing and testing, fluorescence microscopy
- Mechatronics: 3D printing, mechanics-electronics-software integration, component sourcing

Robert Bosch, spol. s.r.o.
Budweis, Czech Republic
Jun 2015 – Sept 2015

Summer Intern

- Working in close cooperation with product technologists and interns to move current production procedure databases into new environment (SAP)
- Data management and analysis in Excel, holding employee trainings

Other

- **Volunteering**
  - Social Service (Kirchgemeinde Erlöser – Zürich, 2017-ongoing) – clothing donations coordinator
  - Education (Museum of Romani Culture – Brno, 2015-2016) – teaching after-school lectures
  - Sustainable Development (Concordia Ile-de-France – Paris, 2013)
  - Culture (Allez les Filles – Bordeaux, 2014, Budějovický Majáles – Budweis, 2010-2013)
- **Coaching** Ultimate Frisbee club (~ 20 players) for 1 season
- **Project Coordination** at IAESTE – Internships abroad and career fair for ca. 3500 students
- BEST **Courses on Technology** – Renewable Energy and E-Mobility (University of Erlangen-Nuremberg, May 2015), Recycling and Advanced Materials (Ghent University, July 2014)

PC and Lab Skills

- *CAE Software:* Fluent, ANSYS, Matlab, Octave, AutoCAD Mechanical, Inventor
- *Programming:* Python, Matlab, C & C++ (basics), JavaScript, HTML and CSS, Linux, Git, Latex
- *Wet Lab:* Cell Culture, Histology, Viability Assays, PCR, Bioprinting, Hydrogels Preparation and Crosslinking

Languages

- English ●●●●●●●
- French ●●●●○○○
- German ●●●●○○○
- Czech & Slovak ●●●●●●●

Hobbies


Foreign Languages


Travelling


Sports


Public Speaking


Cooking


Reading

Zürich, August 23, 2017
