

Matthias Auf der Mauer

HARDWARE ENGINEER

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Education

University of California, Berkeley

Berkeley, USA

MASTER THESIS IN THE SWARM LAB AT THE EECS DEPARTMENT (GRADE: 6.0/6.0)

July 2015 - January 2016

- Developed algorithm to simulate and predict trajectories of magnetic particles in a CMOS Micro-Flow Cytometer using Python, Matlab, Mathematica and COMSOL
- Validated simulations experimentally and achieved high accuracy with 10% relative error of simulations towards experimental results

ETH Zürich

Zurich, Switzerland

MSC IN MECHANICAL ENGINEERING WITH FOCUS MEMS/NEMS (GRADE: 5.64/6.0)

September 2014 - January 2016

- Semester Thesis: "Business Model Analysis of Intuitive Surgical Inc. and Strategic Implications for Companies in the Robotic Assisted Healthcare Industry."

ETH Zürich

Zurich, Switzerland

BSC IN MECHANICAL ENGINEERING (GRADE: 4.45/6.0)

September 2010 - February 2014

- Bachelor Thesis: "Development of Bio-inspired Super Hydrophobic Aluminum Surfaces." (Nanoscale, 6(15), 8710-8719.)
- Developed manufacturing process for robust, hierarchically nanostructured, metal-based (aluminum) superhydrophobic surfaces
- Achieved surfaces with high superhydrophobicity & simultaneously exhibit chemical stability, mechanical durability and droplet impalement resistance

Experience

Clarity Movement Co. (Air Quality Sensor Startup)

Berkeley, USA

SENIOR HARDWARE ENGINEER & PROJECT MANAGER (1ST EMPLOYEE)

January 2016 - PRESENT

- Developed PM2.5 Sensor from concept to minimum viable product using agile methodologies
- Performed all technical activities in product development process: Prototyping, simulations, soft-, firm- and hardware development & testing, data acquisition and analysis & DFM
- Improved sensor performance by more than 30% by optimizing sensor algorithm, mechanical design and component selection
- Supported licensing deal of exclusive rights of sensor technology to Sensirion
- Helped raising 2.1M Series A funding by supporting negotiations & presentations
- Led team of 3 engineers in sensor industrialization project in collaboration with Swiss business partner to scale up sensor prototype to a mass producible product
- Ensured knowledge transfer to business partner by leading two-week technical workshop on client site to train their team of 10 engineers on all aspects of clarity's technology

Sprungbrett Internet GmbH (Website Builder Startup)

Cologne, Germany

INTERIM LOCALIZATION PROJECT MANAGER

May 2014 - February 2015

- Led German localization project for a US based business partner from kickoff to launch
- Launched internet platform on time and to budget while managing and meeting client requirements and aggressive deadlines
- Headed translators and quality assurance and collaborated with engineering team in Israel to ensure smooth feature releases every week using agile development methodologies
- Led the linguistic review and functional testing of all localized content

Asea Brown Boveri (ABB) Ltd

Turgi, Switzerland

TECHNICAL PROJECT MANAGEMENT INTERN

August 2013 - February 2014

- Delivered more than 20 medium voltage drives (ACS1000 & 2000) on schedule by managing engineering customer projects simultaneously
- Planned and monitored projects with an average budget of \$200k across all interfaces and held responsibility concerning achievement of time, cost and material goods
- Handled complaints and contract amendments and executed factory acceptance tests
- Optimized office workflow by collecting and analyzing work process data of key performance metrics and defining and implementing lean office methods
- Implemented internal and external processes of an international part replacement process for 2000 defective components

Wegener International GmbH

Aachen, Germany

MECHANICAL ENGINEERING INTERN

January 2011 - February 2011

- Chip removing processes, thermal and chemical separating and joining processes and assembly

Extracurricular Activity

ETH Entrepreneur Club

CORE MEMBER

Zurich, Switzerland

January 2015 - July 2015

- Organized events to expand the services of the Entrepreneur Club to the ecosystem of Zurich

Young People Vote!

Co-FOUNDER

Bonn, Germany

July 2009

- Founded and chaired a non-party society animating students to vote

Mathematics Coaching System

Co-FOUNDER

Bonn, Germany

April 2009 - April 2010

- Developed and implemented coaching system to teach mathematics effectively and cost-saving

Skills and Activities

IT Skills

Python, MATLAB, Mathematica, COMSOL, Solidworks, AutoCAD, MS Project, LATEX, SAP, Adobe Illustrator, MS Office

Skills

Arduino, Raspberry Pi, Rapid Prototyping, 3D Printing, Laser Cutting

Languages

German (native), English (fluent), French (basic), Latin (qualification in Latin)

Interests

Rowing, running, cycling, skiing, tennis, cooking and travelling