

Benjamin M. Lorenzetti

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Education

University of Cincinnati

Pursuing BS in Electrical Engineering, 3.53/4.00

Previously pursuing BS in Mechanical Engineering

Fairborn High School

High School Diploma, 4.0/4.0

Cincinnati, OH

2013–Present

2010–2012

Fairborn, OH

2006–2010

Experience

University of Cincinnati BioMicroSystems Lab

Research Coop

Cincinnati, OH

Fall 2014

Responsible for improving user interface of point-of-care sensors being developed at UC.

- thumb-sized electrochemical sensors for measuring heavy metal concentrations in H_2O /blood
- designed PCB for interfacing commercial potentiostat and custom sensors
- built enclosure of potentiostat/PCB
- wrote software GUI for non-technical users in C/C++
 - utilized libusb, to interface with PalmSens EmStat potentiostat
 - wrote Berkeley Sockets HTTP/1.0 server, to make a web browser GUI
 - selected libusb and web server GUI, to maximize portability
 - utilized pthreads library, to handle USB and HTTP events simultaneously

Toyota Technical Center

Materials Research Coop

Ann Arbor, MI

Fall, Spring 2012

Fabricated superparamagnetic nanoparticle compacts and optimized their bulk-magnetic properties.

- Designed/built oxygen-free enclosure for transporting air-sensitive nanoparticles
- Developed sintering/annealing technique for *Permendur*/ SiO_2 core/shell nanoparticles
- Managed day-to-day maintenance and chemical inventory of Lab M2
- Oversaw installation of vibrating sample magnetometer (VSM) and authored TTC operating manual
- Regularly used IR spectrometer, VSM, LCR meter, 4-pt probe, and glove box

TecEdge Discover Lab

Engineering Intern

Dayton, OH

Summer 2011

Compared various commercial technologies, with regard to their potential for generating power in remote locations

Technical Skills

Languages and Libraries: C, C++, libusb, pthreads, MathGL, \LaTeX , HTML5, CSS3

Tools: CadSoft Eagle, NGSPICE, MATLAB, SolidWorks, Apache, Postfix

Honors and Awards

Eagle Scout Award, National Merit Scholar, UC | 21 Scholar, Elks Most Valuable Student Scholar

Community Involvement

UC Breakfast Brigade, Student Leader—Breakfast brigade is a service organization sponsored by St. Monica St. George Catholic Church. We prepare breakfast for day laborers in Cincinnati, who rarely have enough time between reporting at their agency and commuting to work assignments. Breakfast is served every Thursday, 4:30–5:00 a.m., at Labor Works Cincinnati.

Co-op Schedule: *two semesters*, either Summer 2015/Spring 2016, or Fall 2015/Summer 2016