

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

Cincinnati, OH

2013–Present

2010–2012

Fairborn High School

High School Diploma, 4.0/4.0

Fairborn, OH

2006–2010

Experience

Toyota Technical Center

Materials Research Coop

Researched optimizations for bulk-magnetic properties of nanoparticle compacts

- Designed and built oxygen-free enclosure for transporting air-sensitive nanoparticles
- Studied how thermal annealing parameters affected magnetic and structural properties
- Wrote software for quickly parsing magnetic hysteresis data
- Synthesized and sintered *Permendur/SiO₂* core/shell nanoparticles
- Managed day-to-day maintenance and chemical inventory of Lab M2

Ann Arbor, MI

Fall 2012

Toyota Technical Center

Materials Research Coop

Fabricated and analyzed magnetic materials with superparamagnetic properties

- Developed sintering technique for *Fe₂O₃/SiO₂* core/shell nanoparticles
- Oversaw installation of Vibrating Sample Magnetometer (VSM) and authored TTC operating manual
- Analyzed material properties; including resistivity, magnetic hysteresis, magnetic Quality, density, and structure
- Regularly used IR spectrometer, VSM, LCR meter, 4-point probe, and glove box

Ann Arbor, MI

Spring 2012

TecEdge Discover Lab

Engineering Intern

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

Dayton, OH

Summer 2011

Technical Skills

Languages: C++, C, Linux system calls, Arduino, L^AT_EX, 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.