**Education:**

Bachelor of Arts, Coe College, Cedar Rapids, IA, 5/2013 GPA: 3.927

Majors: Physics, Computer Science and Mathematics

**Honors:**

* Dean’s List, Coe College
* Eagle Scout
* William Lowell Putnam Mathematical Competition
* ACM ICPC (International Programming Competition), Regional competition site winners

**Internship Experience:**

Rockwell Collins Internship, Rockwell Collins, Inc. Advanced Technology Center, Microelectronics Packaging Unit, Cedar Rapids, IA (6/2011-8/2011)

*Microelectronics die attach process development*

* Mentor: Guy Smith, Sr. Mechanical Engineer, Rockwell Collins, Inc.
* Experience with: class 10000 clean room, chip bonder, wire bonding, stub bumping, plating baths, TLP bonding, AuSn Eutectic bonding, solder bumping, BGA attachment, cross sectional die analysis
* Wrote working papers on No Clean microelectronics die attachment and Transient Liquid Phase bonding

**Research Experience:**

May Term Research, Coe College Physics Department, Cedar Rapids, IA, 5/2010

*Glass Research on Borate Glasses*

* Mentor: Dr. Steve Feller, Physics Department, Coe College
* Worked with other students to research the structures of borate glasses
* Equipment used: Pycnometer, Differential scanning calorimeter, Scanning electron microscope, Laser levitator, Raman spectrometer, X-ray defractometer

Summer Research, Coe College Physics Department, Cedar Rapids, IA (6/2010-8/2010)

*Effects of Pipe Wall Vibrations on the Sound of a Free-Reed Wind Instrument*

* Mentor: Dr. James Cottingham, Physics Department, Coe College
* Examined the effects of the vibrations in the pipe walls of free-reed wind instruments.
* Equipment used: Fourier transform spectrum analyzer, Frequency generator, Energy dispersive x-ray spectroscopy with Scanning electron microscope
* Theoretical Modeling with Matlab and Mathematica
* Presented results of our material property measurements of bamboo at the Acoustics Society of America’s National Meeting in Seattle, 5/2011

Summer Research, Northwestern University Material Science Department, Evanston, IL (6/2012-8/2012) Field Enhancement Due to Plasmonic Nanostructures

* Mentor: Montacer Dridi, Graduate student, Northwestern University Chemistry
* PI: Dr. George Schatz, Northwestern University Chemistry
* Computational simulation of Electromagnetic Field enhancement near the surface of Gold cylindrical dimers
* Finite-Difference Time Domain method simulation in a Yee latice
* Constant Transverse Wavenumber Spectral FDTD with Periodic Boundary Conditions
* Cluster computing with Linux (Fedora)

**Conferences and Presentations:**

* 161st Meeting of the Acoustical Society of America, Presenter, Seattle, WA, 5/2011
* Midwest Undergraduate Mathematics Symposium, Simpson College, Indianola, IA, 4/2010
* All-Iowa Glass Conference, Coe College, Cedar Rapids, IA, 8/2010

**Computer skills:**

Microsoft Office Suite, Mathematica, Matlab, Autodesk Inventor, AutoCAD,

C++ programming language, C#, C, Linux (Ubuntu, Fedora, Arch, Minix), LaTeX

**Leadership and Activities:**

Coe Physics Club Treasurer '11-'12 Vice President '12-'13, Society of Physics Students Chapter president '12-'13, Coe College Math Club, Tutor for the Academic Achievement Program (Math, Physics, Computer Science), Murray Hall Board of Directors