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**Sam Bruno**

**EDUCATION**

***University of Massachusetts-Lowell***, Lowell, MA - B.S.E.E., May 2013, GPA: 3.65

Coursework Summary: Circuit Theory, Electronics, C Programming, Electric Materials, Logic Design, Signals & Systems, Electromechanics, Renewable Energies, Electromagnetics, Linear Feedback, Analog Devices

Senior Engineering Projects

*Capstone – designed, prototyped, and constructed a USB joystick mouse for a client with cerebral palsy*

* Implemented cursor movement, scrolling, left/right clicks, and sensitivity adjustment using the PIC18F4550 microcontroller
* Executed the entire life cycle of the product: translation of customer needs into requirements, design, board layout, assembly, testing, and demonstration

*Opamp Competition - designed, prototyped, and built an operational amplifier using matched BJT parts*

* To meet requirements, many transistor topologies were utilized in design: differential pairs, Widlar current sources, Darlingtons, cascode current mirrors, and complimentary common collectors
* Performed DC and AC design and analysis, assembled opamp via wire wrapping, and constructed test circuits
* Won competition for best opamp with specifications IBias = 236 nA, VOS=300μV, AV=136,000

***The College of William & Mary***, Williamsburg, VA, B.S. in Geology, May 2008

Coursework Summary: Mineralogy, Hydrology, Surface Processes, Paleontology, Earth Structure

Senior Project: Conducted a study on the biological and physical influences on the settling velocity of sediment in the York River, a sub-estuary of the Chesapeake Bay

**WORK EXPERIENCE**

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| *Osram Sylvania – Test Engineer*  (Danvers, MA)   * Environmental testing on automotive lighting products using synchronous Labview and chamber programs * Data analysis in Excel and Minitab * Assembly of electrical test stations * Thermal imaging of LED driver PCBs and heatsink configurations * Technical test report writing and editing |  | Sept. 2013 – Present |
| *ITT Exelis –* *Technical Intern* (Nashua, NH)   * Tested components and products using oscilloscopes, spectrum analyzers, graphics plotters, and multimeters * Soldered surface mount devices onto printed circuit boards * Supported design engineers, studied radio frequency synthesizers and PLL’s | Jan 2012 – Sept. 2012 |
| *United States Forest Service –*  *Hydrologic Technician* (Shaver, CA)   * Removed and installed soil lysimeters in multiple watersheds as part of a 6-year study observing the effects of forest burning and thinning techniques * Mapped the morphology of streams using a total station and GPS unit | May 2009 – Sept. 2010 | |