



## Experience

**Veeco Instruments** Plainview, NY **Contract Software Engineer** 2015 - 2016

- Was the lead C++ engineer dedicated to an R&D project for Veeco's Optium® advanced lapping system.
- Worked extensively with mechanical, electrical, and systems engineers to increase lapping support from a 48 slider arm to a 70 slider arm, which will significantly increase the customer's (Seagate) manufacturing throughput.
- As the only team member with VHDL and programmable logic experience, I volunteered to reverse-engineer, rewrite, and upgrade the programmable logic device firmware on the system. My actions resulted in significantly reducing project costs because additional, last-minute, engineering talent was no longer necessary.
- I took the lead role in researching and integrating a brand protection system (BPS) on the tool. After having worked with vendors to select an appropriate RFID tag and reader which meets the mechanical and electrical constraints, I began development on a reusable hardware abstraction layer which will allow for the BPS to be used on future systems which may require different tags

**North Atlantic Industries (NAI)** Bohemia, NY **Software Engineer, Test Engineer, and Intern** 2014 - 2015

- Extensively tested and verified part of a multimillion dollar custom project for the U.S. Army: one of NAI's most important contracts.
- Developed an XML serialization library that allowed data required for tests and calibrations to be easily stored, used, modified, and transferred between programs.
- Co-developed test plans for a new module and authored software to execute the tests.

**Texas Instruments Incorporated** Germantown, MD **Software Engineering Intern** 2013

- Implemented C-based uniform, Gaussian, and exponential random number generators for DSPLIB 3.2.0.1
- Optimized generators for the advanced pipeline of the C66x Keystone digital signal processors using loop unrolling, intrinsic functions, and inline assembly

## Education

**Stony Brook University** B.E. Computer Engineering & Applied Mathematics, Computer Science Minor 2010 - 2014  
GPA 3.82 (Magna Cum Laude) *Tau Beta Pi Honor Society; Eta Kappa Nu Honor Society; Dean's List*

Undergraduate Coursework: Embedded Systems; Unix Programming; Digital Design; Operating Systems; Computer Architecture; Computer Communications; Operations Research

## Projects

**Smart Bike** Stony Brook University 2013 - 2014

- Modified a multi-speed bicycle to shift gears automatically using an electro-mechanical system.
- The bike maintained, as much as possible, a user-defined pedal RPM by modifying the bicycle's gear ratio appropriately as determined by the speed, current cadence, and current gear ratio.
- Ride statistics (instantaneous and average speed, cadence, gear ratio, and temperature) were displayed on the rider's Android phone via Bluetooth.
- Hall-effect sensors were used to monitor speed and cadence; derailleurs were shifted with servos attached to a self-designed mount; and it was all controlled from an Atmel microcontroller.

## Skills

<b>Programming and Scripting Languages</b>	<i>Well-Versed:</i>	C, C++, C#, Java
	<i>Conversational:</i>	XML, Bash, VHDL
<b>Software</b>	<i>Well-Versed:</i>	AutoCAD, IAR Embedded Workbench, Atmel Studio, Eclipse, NetBeans, Visual Studio, Visio, Excel, PowerPoint, Word, SVN
	<i>Conversational:</i>	Active HDL, ISPLever, Cadence PSPICE, Capture, Allegro Viewer, Code Composer Studio, Doxygen, GNU Autotools, Version One
<b>Operating Systems</b>		Fedora, Ubuntu, Windows
<b>Other Skills</b>		Dale Carnegie Training, CAPA, Embedded Systems, Programmable Logic, Hardware Testing, Mixed Language Programming, Agile Software Development, Design Patterns, Software Control Systems