Anthony Bisulco

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Education

Gordon Scholar at Northeastern University **Boston, MA**
Candidate for a Bachelor of Science in Electrical and Computer Engineering (GPA: 3.98/4) May 2018
Activities: Department of Homeland Security Leadership Council, Institute of Electrical and Electronics Engineers, American Institute of Aeronautics and Astronautics, Tau Beta Pi and Northeastern Program for Teaching Undergraduates
Selected Courses: Robotic Sensing and Mapping SLAM(Taking), Linear Systems, Embedded Design and Electromagnetics

Stony Brook University **Stony Brook, NY**
Young Scholars Program in Astronomy Jan-May 2014

Professional Experience

Singh Robotics Laboratory **Boston, MA**
Systems Integration Engineer Jan 2017-Present
- Integrating Velodyne LIDAR and Point Gray Cameras onto autonomous Lincoln MKZ
- Developing visualization hardware for LIDAR and camera data using a robotic operating system

Northeastern University Sensing, Imaging, Control and Actuation Laboratory **Boston, MA**
ALERT Gordon-CensSSIS Scholar/Undergraduate Researcher/REU (2016) Sept 2014-Present
- Designed and implemented an FPGA and Arduino transmitter/receiver spatial coded imaging control system
- Implemented optimization and compressive sensing methods for electromagnetic modeling
- Implemented a fused millimeter/infrared imaging system for target validation
- Characterized microwave switches using network analyzers for coherent imaging
- Won Best Research Process in 2016 REU Research Showcase
- Collaborated with a group of researchers to advance laboratory projects

European Organization for Nuclear Research (CERN) **Geneva, Switzerland**
ATLAS Systems Engineer Sept -Dec 2016
- Developed advanced array synthesis algorithms for multi-anode photomultiplier tubes
- Designed and implemented a fiber light guide for fiber expansion
- Built a tool for easy laboratory simulation and experimental data comparison
- Presented at an International Collaboration on Tile Calorimeter Upgrades
- Collaborating with a multi-disciplinary/cultural team on experimental particle physics projects

Massachusetts Institute of Technology Lincoln Laboratories **Boston, MA**
Summer Researcher May-Aug 2015
- Developed and implemented a configurable FPGA moving average filter
- Adapted MATLAB image processing algorithms to an FPGA for a UAV Micro-LIDAR
- Debugged and solved various power board issues for Avalanche Photo Diodes(APD)
- Built a visualization tool to process APD camera binary files
- Collaborated with employees and outside consultants to further development of active optical systems

Engineering Projects

Pong over Laser Link(3rd Place at Columbia University Hackathon) **New York, NY**
Laser Engineer Feb 2016
- Developed a wireless laser link to send data over to play a game of pong between two remote terminals
- Developed custom packet format between two links to send and receive data
- Redeveloped hackathon prototype for display at Atmel developers conference

Radiation Detection and Localization (1st Place URI Hackathon) **Kingston, RI**
Python Programmer/Electrical Engineer Nov 2015
- Developed a framework in Python for an Internet of Things platform to detect and localize a radiation source
- Developed machine learning based localization algorithm based on sensor readings

A Practical Notification System to Identify Incoming Sudden Ionospheric Disturbances **Commack, NY**
Independent Researcher Sept 2012-March 2014
- Designed, implemented and tested a new way to detect solar disturbances using off the shelf parts with a custom MATLAB program
- Studied concepts including Fourier transforms, digital filters, sampling theory and electromagnetics

Selected Publications

- **Anthony Bisulco**, Luis Tirado, Shaan Patel, Luigi Annese, Galia Ghazi and Jose Martinez-Lorenzo, "Massive MIMO Millimeter Wave Radar Imaging System," Union of Radio Science presenter, July 2016
- Galia Ghazi, Ashkan Ghanbarzadeh, Ali Molaei, Luis Tirado, **Anthony Bisulco**, Juan Heredia Juesas, Jose Martinez-Lorenzo, "High Frequency Modeling of Large Composite Scatters for Arbitrary Shape: Vortex Lens Validation," European Conference on Antennas and Propagation, April 2016
- **Anthony Bisulco**, "Real Time Solar Flare Analysis," United Nations Space Weather Journal, June 2013
- **Anthony Bisulco**, "A Practical Notification System to Identify Sudden Ionosphere Disturbances," accepted for publication in Journal for Experimental Secondary Science and presented at International Science and Engineering(ISEF) fair and Junior Science and Humanities Symposium. Received NOAA specialty alternate award at ISEF, May 2013-Sept 2014

Certifications/Skills

Programming/Software: Verilog, MATLAB**,** Root, Java, C++, Lab VIEW, Python, SolidWorks and Mentor Graphics Expedition/DxDesigner

Technical Skills: Radar, Remote Sensing, FPGA/Microcontroller Programming and Robotic Operating Systems

Federal Communications Commission: Extra Class Amateur Radio Operator KD2BBR (Nov 2011)

Honors*:* Eagle Scout, Stanford Solar Science award and 1st place at the New York Institute of Technology Showcase