

Anthony Bisulco

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Education

Cornell Tech

CANDIDATE FOR A MASTER IN ELECTRICAL AND COMPUTER ENGINEERING
Concentration in Signal Processing and Machine Learning

New York City, NY
Aug. 2018 - Present

Northeastern University

BACHELOR OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING (3.97/4)

Boston, MA
Sept. 2014 - May. 2018

Activities: Department of Homeland Security Leadership Council, Institute of Electrical and Electronics Engineers, Tau Beta Pi, American Institute of Aeronautics and Astronautics, Northeastern Program for Teaching Undergraduates and Eta Kappa Nu

Experience

Brookhaven National Laboratory

RESEARCH SCIENTIST

Brookhaven, NY
June. 2018 - Pres

- Developed fast **Python** Time of Flight(TOF) signal processing algorithms for a 10ps TOF detector using **NumPy, SciPy, and JupyterLab**
- Implemented Python parameter optimization algorithms using **Dask**(distributed computing library)
- Designed a constant fraction discriminator algorithm to reduce TOF electronics' delay from 64ps to 8ps

Sensing, Imaging, Control and Actuation Laboratory

ALERT GORDON-CENSSIS SCHOLAR/UNDERGRADUATE RESEARCHER/REU (2016)

Boston, MA
Sept. 2014 - May 2018

- Developed an FPGA control system for a **multiple-input multiple-output** radar system with 400 channels
- Implemented **simulated annealing** and **compressive sensing** methods for a coded imaging system
- Implemented a fused millimeter/infrared imaging system for target validation

Singh Robotics Laboratory

SYSTEMS INTEGRATION ENGINEER

Boston, MA
Jan. 2017 - May. 2018

- Implemented a **visual**-based **navigation** technique for GPS denied urban areas using computer vision
- Integrated Velodyne LIDAR and 5 Point Grey Cameras into ROS for light field array

Google Research and Machine Intelligence

EMBEDDED ENGINEER

Mountain View, CA
July 2017 - Dec. 2017

- Performed transfer learning in **Tensorflow** to retrain models for audio and image recognition
- Developed AIY vision kit an on-device **neural network** accelerator for computer vision
- Assisted in rapid prototyping/full scale manufacturing process of developing units
- Traveled **internationally/nationally** for demoing and marketing AIY kits to distributors

European Organization for Nuclear Research (CERN)

ATLAS SYSTEMS ENGINEER

Genevè, Switzerland
Sep. 2016 - Dec. 2016

- Developed array synthesis algorithms for multi-anode **photomultiplier tubes**
- Designed and 3D printed a fiber light guide for 85% increased sensor coverage of the photomultiplier tube
- Built Spectrum a web application for laboratory simulation and experimental data comparison

Massachusetts Institute of Technology Lincoln Laboratories

SUMMER RESEARCHER

Lexington, MA
May. 2015 - Aug. 2015

- Adapted MATLAB image processing algorithms to an **FPGA** for a UAV Micro-LIDAR
- Developed and implemented a configurable FPGA moving average filter for Avalanche Photo Diodes (APD)

Selected Publications

- A. Molaei, K. Graham, L. Tirado, A. Ghanbarzadehdaghe Dagheyan, **A. Bisulco**, J. Heredia-Juesas, C. Liu, J. Von Holten, J.A. Martinez-Lorenzo, "Experimental Results of a Compressive Reflector Antenna Producing Spatial Coding," IEEE Antennas and Wireless Propagation Letters, submitted
- A. Molaei, **A. Bisulco**, L. Tirado, A. Zhu, D. Cachay, A. Ghanbarzadehdaghe Dagheyan, J.A. Martinez-Lorenzo, "3D Printed E-Band Compressive Horn Antenna for High-sensing-capacity Imaging Applications," IEEE Antennas and Wireless Propagation Letters, Jul. 2018.
- **A. Bisulco**, L. Tirado, S. Patel, L. Annese, G. Ghazi and J.A. Martinez-Lorenzo, "Massive MIMO Millimeter Wave Radar Imaging System," IEEE APS/URSI July 2016, Puerto Rico, presented

Skills

Programming/Software: Python, MATLAB, C++, Verilog, SolidWorks

Technical Skills: • Signal Processing • Data Analytics • Machine Learning • Compressive Sensing
• Radar • Remote Sensing • Robotics • FPGA/Microcontroller Programming

Honors: • Eagle Scout • Stanford Solar Science award • Best Embedded Hack at Columbia Hackathon

Interests: • Traveling • Hiking • Boating • Photography • Cooking