

Andrew Tu

COMPUTER ENGINEER

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Education

Northeastern University | Boston, MA

May 2020

B.S. IN COMPUTER ENGINEERING

GPA: 3.9/4.0

- Coursework: Fund. of CS 1, Embedded Design, Diff. Eq. and Linear Algebra
- Involvement: NU MONET Research, NUCAR Research, IEEE, MIT Ballroom Dance Team, Toastmasters, Lead 360, Society for Asian Scientist and Engineers (SASE) Mentor, Disability Resource Center Note taker

Skills

Programming C++, Python, Javascript|HTML|CSS, Java, Excel VBA

Technologies Linux, OpenMP, Git, MATLAB, Microsoft Office

Hardware Ethereum Mining, XBee Radio Modules, Teledyne Benthos Acoustic Smart Modems

Technical Experience

MIT Lincoln Laboratory

Lexington, MA

CO-OP TECHNICAL ASSISTANT

Jan. 2017 - Present

- Parallelized radar signal processing chain in C++ using OpenMP and MPI resulting in **1700%** speedup. Work demonstrated hybridized MPI and OpenMP parallelizations met project requirements and reduced development costs.
- Automated benchmarking efforts through python and bash scripts to rapidly test and compare over **350** configurations.
- Leveraged analysis tools from the Intel Parallel Studio Suite and Allinea Forge for debugging and optimization
- Familiarized with OpenSplice DDS
- Developed and trained SVM Fake News Classifier for Tech. Office Challenge, team placed 3rd overall with **.2%** difference in accuracy of top 3 teams

Northeastern University Marine Observatory Network

Boston, MA

UNDERGRADUATE RESEARCH ASSISTANT (NSF REU)

Oct. 2015 - Jan. 2017

- Designed and implemented smart buoy and GUI control system using C++, QT framework, and XBee Radio modules to bridge above water radio network with subsea acoustic network.
- Implemented MAC protocols in MATLAB on Teledyne Benthos SM-975 Acoustic Smart Modems to advance understanding of modem interactions and compare efficacy of MAC protocols over acoustic channel.
- Co-authored two papers and gave two major presentations

Northeastern Interactive Clustering Engine

Boston, MA

UNDERGRADUATE RESEARCH ASSISTANT (NSF REU)

Jun. 2016 - Aug. 2016

- Contributed to open source C++ machine learning library using scalable framework technologies like Git, Cmake, Google Test. Resulted in
- *Software-Engineered Library Development to Support a High Performance Machine Learning Visualization System*, poster presentation for 2016 Data Driven Discovery (D3) REU Site, (Best Overall Design)

NUCAR Side Channel Attacks

Boston, MA

UNDERGRADUATE RESEARCH ASSISTANT

Oct. 2015 - Apr. 2016

- Developed RSA encryption algorithms in C++ for use in side channel attack on Android application. Presented work:
- *Hacking your Data - The Hard(ware) Way*, poster presentation at 2016 Research, Innovation and Scholarship Expo (RISE) at Northeastern University

Honors & Awards

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| Apr. 2017 | 2017 MIT Connected Care Design Hackathon , Placed top 5 with simulated AR heads up display |
| Apr. 2017 | Hardware Hackathon: Club Snell Edition , Won 1st place with implementation of campus resource finder |
| Feb. 2017 | NU Talk 2017 , Presented to 300+ people on NU MONET underwater networking project |
| Dec. 2014 | Boy Scouts of America , Eagle Scout (Bronze Palm) |