

Alex Thornton

1221 Tulip Ridge, Apt. 327, Liverpool, NY 13090

C: (585) 362-9601 | O: (607) 751-7457 | a.thornton@columbia.edu | [linkedin.com/in/alex-thornton](https://www.linkedin.com/in/alex-thornton)

Technical Skills

Software: C/C++, Python, Linux, Docker, Hadoop, Spark, Deep Reinforcement Learning, ML/ AI, Algorithms, DSP, MATLAB

Hardware: Cadence Virtuoso, SPICE, Analog/ Digital IC Design, Communication Systems, 5G/ mm Wave Technology

Professional Experience

Lockheed Martin, Syracuse, NY

AI/ ML Engineer

Sep. 2020 – Present

- Integrated random forest and multi-headed CNN architectures for electronic warfare classification on IRAD program
- Replaced entire existing software pipelines with AI models with improved performance

Engineering Leadership Development Program

Aug. 2020 – Present

- Developed technical and leadership skills through conferences, mentoring, coursework, and a rigorous lifecycle project
- Three-year program consisting of rotational assignments in various engineering disciplines

Software Engineer

Mar. 2021 – Sep. 2020

- Introduced GitLab runner continuous integration/ development shell scripts for lab automation
- Transitioned synthetic aperture radar (SAR) software interface for firmware and hardware upgrade

Systems Engineer Asc.

June 2019 – Aug. 2020

- Delivered technical demonstration as lead systems engineer for prospective \$6 million contract
- Created and improved GUIs and MATLAB tools for flight simulators and data analysis tools
- Designed algorithms to meet customer requirements using electronic warfare techniques

SRC, Inc., North Syracuse, NY

Radar Engineering Intern

May 2018 – Aug. 2018

- Modelled, analyzed, and verified system design and system performance for advanced radar systems
- Implemented signal processing and data analysis algorithms (e.g. trackers, detectors, etc.) in MATLAB and Python

Education

Columbia University, School of Engineering and Applied Science (SEAS), New York, NY

Master of Science in Electrical Engineering

Expected May 2022

Specializations: Machine Learning and Advanced Communications

Notable Coursework: Deep Learning, Reinforcement Learning, Big Data Analytics, 5G Applications for mm-Wave

Binghamton University, Watson College of Engineering and Applied Science, Binghamton, NY

Bachelor of Science in Electrical Engineering, Summa Cum Laude

Conferred May 2019

Honors: Tau Beta Pi | Eta Kappa Nu | Phi Eta Sigma | Dean's List: 8 Consecutive Semesters

Cornell University, College of Engineering, Ithaca, NY

Model Based Systems Engineering Coursework

Completed May 2021

Project Experience

Learning to Learn – Math Word Problem Kaggle Competition, New York, NY

Aug. 2021

- Ranked 3rd place in deep learning course Kaggle competition @ Columbia University
- Trained GPT-2 based model to solve math word problems
- Cleaned and formatted various training datasets to improve model performance

Auto-Tune Application, New York, NY

Nov. 2019 – Dec. 2019

- Designed GUI to play back and visualize audio inputs pitch corrected to a specific piano key or nearest note
- Developed signal processing technique to efficiently filter and pitch shift audio signals without loss of sound quality

Additional Honors

Active United States DoD Security Clearance – SECRET, Washington, DC

June 2018

IEEE Region 1 Research Paper Competition 2018 – Honorable Mention, New York, NY

Mar. 2018

Eagle Scout – Boy Scouts of America, Ogden, NY

May 2013