**Alex Thornton**

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

C: (585) 362-9601 | O: (607) 751-7457 | [a.thornton@columbia](mailto:a.thornton@columbia).edu | 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.,** NorthSyracuse, 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, NYAug. 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, NYNov. 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