ALEX THORNTON

1221 Tulip Street, Apt. 327, Liverpool, NY • a.thornton@columbia.edu • linkedin.com/in/alex-thornton • (585) 362-9601

EDUCATION

Columbia University   New York, NY
Master of Science in Electrical Engineering   Expected May 2022
Specialization: Data-Driven Analysis & Computation
Notable Coursework: High-Dimensional Data Analysis, Deep Learning, Reinforcement Learning, Big Data Analytics

Binghamton University   Binghamton, NY
Bachelor of Science in Electrical Engineering   May 2019
Honors: Summa Cum Laude | Tau Beta Pi | Eta Kappa Nu | Phi Eta Sigma

TECHNICAL SKILLS

Software	C/C++, Python, Linux, Docker, Hadoop, Spark, AI/ML, Google Cloud Platform, DSP, Tensorflow, PyTorch, Big Data, Algorithms, MATLAB
Hardware	Cadence Virtuoso, SPICE, Analog/ Digital IC Design, 5G Systems, Massive MIMO

PROFESSIONAL EXPERIENCE

Lockheed Martin   Syracuse, NY
Machine Learning Engineer   Sep 2021 - Present
- Integrated random forest and deep learning PyTorch models for IRAD electronic warfare effort
- Complemented existing software pipelines with AI models for improved performance

Engineering Leadership Development Program / Software Engineer   Feb 2021 - Sep 2021
- Developed technical and soft skills through rigorous 10-month team lifecycle project and conferences
- 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.   Jun 2019 - Feb 2021
- Delivered technical demonstration as lead systems engineer for prospective $6 million contract
- Created GUIs and MATLAB tools for flight simulators and data analysis tools

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 in MATLAB and Python

PROJECTS

SpotifyClassifier
- Voted 2nd best research project at Columbia University Big Data Analytics Expo – Fall 2021
- Designed machine learning model to interface with Spotify API to classify track genres from song name only
- Performed novel subgenre interconnectedness analysis to estimate Fisher information of subgenres

Learning to Learn - Math Word Problem Kaggle Competition
- Ranked 3rd place in deep learning course Kaggle competition at Columbia University – Summer 2021
- Trained GPT-2 and graph2tree architectures to solve math word problems

Auto-Tune Application
- 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
- Eagle Scout - Boy Scouts of America, 2013