Alex **Parisi**

Software Engineer · DSP Engineer · Electrical Engineer

NYC Metropolitan Area

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Summary

Knowledgeable and highly motivated engineer with 5 years of experience specializing in Digital Signal Processing. Hands-on experience developing products across multiple industries and platforms. Experienced in Algorithm Design and Statistical Analysis, and passionate about Machine Learning and the latest Neural Network technologies. Quick learner with a drive for incorporating new tools and technologies into my workflow.

Skills

Programming	C++, Python, MATLAB, JavaScript, HTML & CSS, Markdown, AWS, Git, SQL, Unix, Bash
Software & Packages	Tensorflow/Keras, PyTorch, numpy, scipy, pandas, matplotlib, git, Latex
General	Algorithm Design, Software Design, Firmware Integration, Statistic Analysis, Technical Documentation

Work Experience

Mikucare

Woodbridge, NJ / Hybrid

Digital Signal Processing Engineer *(Computer Vision, Health Care)* — *Mar. 2022 - Present*

- Member of a team of engineers responsible for developing and maintaining the device firmware of a smart baby monitor: scheduling releases, ensuring proper version control and documentation, and participating in code reviews
- Completed an overhaul of the motion detection algorithm and improved the image features of the monitor's camera - tuning and simulation were done using Python and MATLAB, and the final algorithm was integrated into the production firmware in C++
- Responsible for performing statistical analyses on large sets of data to ensure proper device function and algorithm deployment. Debugged customer issues and made adjustments to the motion detection algorithms and radar processing pipeline

Peraton Labs

Picatinny Arsenal, NJ / Remote

Software Engineer *(Radar, Defense)* — *Nov. 2019 - Mar. 2022*

- Member of a team of engineers responsible for developing and maintaining the object tracking and trajectory estimation software for a Counter-Unmanned-Aircraft-System (C-UAS) program at the US Army CCDC-AC: Weapons and Software Engineering Center
- Participated in technical discussions, verified software pipelines, and analyzed ballistic radar trajectories and adaptive filter performance for C-UAS programs and performed algorithmic analyses for a Kinetic-Energy (KE) defeat project.

Crestron Electronics

Rockleigh, NJ

Firmware Engineer *(Audio, Home Automation)* — *Jan. 2018 - Nov. 2019*

- Wrote and interacted with bare-metal and Real-Time-Operating-System (RTOS) firmware, specifically relating to audio processing algorithms like line/acoustic echo cancellation, delay-and-sum beamformers, and fixed/adaptive filter design.
- Modeled algorithms and product design feasibility in MATLAB, and participated in the full cycle of product development for the UC-SB1-CAM soundbar, one of Crestron's best-selling products.

Education

Georgia Institute of Technology

Atlanta, GA

M.S. in Electrical and Computer Engineering, Concentration in Digital Signal Processing — *2016 - 2017*

Manhattan College

Bronx, NY

B.S. in Computer Engineering, Minor in Mathematics — *2012 - 2016*

Projects

Arbitrary Style Transfer Web App

Python, Flask, Tensorflow, pip

- Implemented a ML model that performs arbitrary style transfer, and then created a web app and hosted it on my website.

Chessboard Evaluation using a Deep Convolutional Neural Network (CNN)

Python, Tensorflow, CUDA

- Designed, trained, and implemented a CNN on chessboard positions and their evaluation in an attempt to mimic the evaluator.

Patents

US20210074311A1: Adaptive beamforming microphone metadata transmission to coordinate acoustic echo cancellation in an audio-conferencing system