Matthew Ciolino

Machine Learning Developer – Secret Clearance – Huntsville, AL – (908) 967-0559 – mrciolino@alum.lehigh.edu

EXPERIENCE

PeopleTec
Machine Learning Developer, June 2019 – Present
- Performed studies with state-of-the-art deep learning algorithms to investigate effectiveness in satellite imagery
- Informed stakeholders and customers on machine learning algorithms and applications through presentations
- Developed Super-Resolution framework that increased image classification mAP for various CV tasks by ~15%

Papers: Training Set Effect on Super Resolution for Automated Target Recognition (1st) – Super Resolution
Autonomous Global Search to Detect and Monitor Missile Sites (3rd NFCS) – Image Classification

PeopleTec
Junior Engineer (C++ Developer), Nov 2018 – June 2019
- Developed fast, physics-based models for predicting damage and response of threat systems due to missile collisions
- Designed, built, and maintained efficient C++ and Fortran for PEELS using version control and coding guidelines
- Performed analysis and data reduction in Python to validate model performance for DoD on Linux and Windows

Lehigh University
Research Assistant, Aug 2017 – Dec 2017
- Modeled and constructed custom 750kV co-axial electric motors and controls system for a thrust vectoring counter-rotating propeller system that could be launched from a 70mm mortar round
- Modified open-source software in C++ to implement a custom control system that allowed servos full manual control
- Tested/Calibrated the electromechanical system in flight and on testbench to document performance characteristics

PROJECTS

Portfolio Site – Matthew Ciolino Portfolio
- HTML, CSS, and Python portfolio site with flask and bootstrap containing demos, notebooks, and code of projects

Multi-Scale Single Image Super Resolution – Super Resolution Notebook
- Variable Scale testing framework for Single Image Super Resolution for state-of-the-art deep learning networks
- Allows user to use a variety of SOTA super resolution techniques on images with any resolution or aspect ratio

Novel Job Tag Classifier – Job Tag Classifier GitHub
- Developed Deep Learning classifier to predict job tags for a job description/title for a job search algorithm
- Used Natural Language Processing (NLP), a Convolutional Autoencoder (CAE), and a Deep Neural Network (DNN) to convert scraped internet data into job tags at 86% validation accuracy

LEADERSHIP

Soterra: Women's Safety XPRIZE
Design Lead, Jan 2017 – May 2018
- Led design of 1st mesh networking (IOT) commercial electronic device to enter women's safety device industry
- Won $50,000 as a top 5 finalist among industry leaders during the XPRIZE summit in Mumbai, India
- Directed creation of mechanical (SolidWorks) and electrical (PCB) documentation for production of our device
- Programmed peripheral components and sensors (GPS, Button, LED) in C

EDUCATION

Lehigh University, *Bethlehem, PA*
Bachelor of Science in Mechanical Engineering and minor in Aerospace Engineering, May 2018
- GPA: 3.03 / 4.00

ADDITIONAL SKILLS

Skills Programming : Python (Keras, Pandas, Matplotlib, NumPy), Docker, Git, C++, Unix, Windows, Azure, SQL
Machine Learning : Super Resolution, Object Detection, Image Classification, NLP, Clustering, Deep Learning