Matthew Ciolino

Data Scientist | mrciolino@alum.lehigh.edu | Portfolio | 908-967-0559

EXPERIENCE

Data Scientist   Nov. 2020 – Present

PeopleTec   *Remote*

- Applied state-of-the-art deep learning algorithms to investigate effectiveness in satellite imagery
- Trained low data quantized aware networks (TinyML) for object detection to detect rare objects at 75% mAP
- Created internal APIs that automate critical tasks across the training of computer vision models using Docker
- Presented research at National and International Machine Learning Conferences (SPIE, AI4I, NIAI, NFCS)
    * Training Set Effect on Super Resolution for Automated Target Recognition (SPIE)
    * Fortify Machine Learning Production Systems: Detect and Classify Adversarial Attacks (ICMLA)
    * The Chess Transformer: Mastering Play using Generative Language Models (AI4I)

Machine Learning Engineer   Nov. 2019 – Nov. 2020

PeopleTec   *Huntsville, AL*

- Developed Super-Resolution framework that increased precision (mAP) for various computer vision tasks by 15%
- Cleaned helicopter maintenance logs using a bootstrapped hierarchal work unit code classifier to correct over 300k misclassified maintenance events for the 160th Special Operations Aviation Regiment
- Implemented Gradient Boosting to provide real-time results 2000x faster at R^2 of .97 for PEELS Lethality Sim

Junior Engineer   Nov. 2018 – Nov. 2019

PeopleTec   *Huntsville, AL*

- Developed fast, physics-based models for predicting damage and response of threat systems due to missile collisions
- Maintained and wrote efficient C++ and Fortran code for Parametric Endo/Exothermic Lethality Simulation (PEELS) using version control and coding guidelines to increase accuracy by 12% (Validation on Linux/Windows)

PROJECTS

xEval Legislation Alerts   Dec. 2020 – Jan. 2022

- Established both UI/Frontend (Node/Bootstrap) design and Data Science (recommendations) microservices
- Scraped and analyzed over 455k bills into a SQL database to provide over 125 customers with 13k daily alerts
- Deployed production in AWS EC2 and Lambda, Version control in Git, Workflow in Clubhouse/Slack

Soterra: Women's Safety XPRIZE   Jan. 2017 – May 2018

- Led design of 1st mesh networking (IOT) commercial electronic device (C++) for 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

EDUCATION

Georgia Institute of Technology   Atlanta, GA

Master of Science in Computer Science   *Aug. 2020 – May 2023*

Lehigh University   Bethlehem, PA

Bachelor of Science in Mechanical Engineering, Minor in Aerospace Engineering   *Jan. 2015 – May 2018*

TECHNICAL SKILLS

Languages: Python, JavaScript, C/C++, HTML/CSS, SQL (MySQL)
Frameworks: Tensorflow, Pytorch, Node.js, Flask, Bootstrap
Developer Tools: Git, Docker, Anaconda, AWS, Azure, Unity, Visual Studio
Libraries: Keras, OpenCV, Pandas, NumPy, Matplotlib, Prophet