

Matthew Ciolino

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EXPERIENCE

PeopleTec

Data Scientist

Nov 2020 – Present

- Applied state-of-the-art deep learning algorithms to investigate effectiveness in satellite imagery
- Developed custom object detection model on FPGAs for DARPA's onboard satellite processing mission, Blackjack
- Presented at National and International Machine Learning Conferences (SPIE, NFCS, AI4I, NIAI, ICMLA)

Papers ([arXiv](#)): Fortify Machine Learning Production Systems: Detect and Classify Adversarial Attacks (1st ICMLA)
Training Set Effect on Super Resolution for Automated Target Recognition (1st SPIE)
The Chess Transformer: Mastering Play using Generative Language Models (2nd)

PeopleTec

Machine Learning Engineer

June 2019 – Nov 2020

- Developed Super-Resolution framework that increased precision (mAP) for various computer vision tasks by ~15%
- Cleaned helicopter maintenance logs using a bootstrapped hierarchical work unit code classifier to correct over 300k misclassified maintenance events for the 160th Special Operations Aviation Regiment (Airborne)

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 code for Parametric Endo/Exothermic Lethality Simulation (PEELS) using version control and coding guidelines to increase accuracy by 12% (Validation on Linux/Windows)

Lehigh University

Research Assistant

Aug 2017 – Dec 2017

- Constructed 750kV co-axial electric motors and control arms for a thrust vectoring counter-rotating propeller system
- Modified open-source software in C++ to implement a custom control system that allowed servos full manual control
- Tested/Calibrated the electro-mechanical system on testbench and in flight to document performance characteristics

PROJECTS

Portfolio Site – [Matthew Ciolino Portfolio](#)

- Flask/Bootstrap website containing various Paper Highlights, Project Code, and ML demos

xEval – Data Science/Frontend – [xEval Legislation Alerts](#)

- AWS powered Legislation Alerts with over 128k calls to containerized microservices (recommendations, similarity)

LEADERSHIP

Soterra: Women's Safety XPRIZE

Design Lead

Jan 2017 – May 2018

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

EDUCATION

Georgia Institute of Technology, Atlanta, GA

Master of Science in Computer Science with specialization in Computational Perception & Robotics

May 2022

Lehigh University, Bethlehem, PA

Bachelor of Science in Mechanical Engineering and Minor in Aerospace Engineering

May 2018

ADDITIONAL SKILLS

Programming: Tensorflow, PyTorch, Python, Docker, Linux, Windows, AWS, C++, Git, JavaScript, HTML, CSS, SQL