Matthew Ciolino

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E X P E R I E N C E

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 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 (Airborne)

  Papers: Training Set Effect on Super Resolution for Automated Target Recognition (1st SPIE) - arXiv
  Autonomous Global Search to Detect and Monitor Missile Sites (3rd National Fire Control Symposium)

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 model accuracy by 12%
- Performed analysis and data reduction in Python to validate model performance on Linux and Windows

Lehigh University
Research Assistant   *Aug 2017 – Dec 2017*
- Modeled and constructed custom 750kV co-axial electric motors and control arms 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 on testbench and in flight to document performance characteristics

P R O J E C T S

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

Multi-Scale Single Image Super Resolution
- Created variable scale test framework for Single Image Super Resolution for state-of-the-art deep learning networks
- Allowed user to use a variety of SOTA super resolution techniques on images with any resolution or aspect ratio
- Developed system to chip down a larger image into a variety of patch sizes and patch shapes to run ablation studies

L E A D E R S H I P

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

E D U C A T I O N

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*

A D D I T I O N A L   S K I L L S

Programming : Python, Docker, Unix, C++, Git, Windows, AWS, SQL, Azure, HTML, CSS