Thomas Dougherty

thomasdougherty.ai

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Education

University of California, Riverside
Department of Electrical and Computer Engineering
Master of Science *(September 2017 – July 2019)*
Advisor: Amit K. Roy-Chowdhury

University of California, Riverside
Department of Electrical and Computer Engineering
Bachelor of Science *(September 2012 – June 2016)*

Computer Skills

Deep Learning libraries: PyTorch, TensorFlow/Keras, Caffe2, Caffe, Chainer

Programming Languages: Python, C/C++, MATLAB, JavaScript

Platforms: Amazon SageMaker, Docker, Singularity, Kubernetes

Operating systems: GNU/Linux, Windows, macOS

Work Experience

The Aerospace Corporation
Geospatial Analyst *(June 2017 – Present)*
- Develop deep learning and computer vision solutions for the space enterprise
- Research group leader for deep learning initiatives
- Create solutions for satellite imagery with a wide range of spatial, spectral, temporal, radiometric, and geometric resolutions (Electric-optical, Hyperspectral, Synthetic-aperture radar, Polarimetric, Infrared)
- Address department needs for future direction, resources for growth, employee selection
- Compete in data science public challenges

   Awards
   - SPOT Award (September 2020) - The SPOT Awards Program recognizes individual and team accomplishments that go beyond anticipated performance
   - Performance Recognition Program (October 2020) - PRP is intended to recognize and reward individual employees for a "distinguished contribution" above and beyond one's job responsibilities that contribute to FY organization, customer or corporate initiatives/goals.

The Aerospace Corporation
Material Technical Specialist Intern *(June 2016 – June 2017)*
- Used computation topography to reconstruct electrical components to find defects
- Thermal imaging to obtain characteristics of components
- Performed hardware analysis on failing electrical components
- Created accelerated life test set up for base-metal electrode capacitors

Personal Projects

Class Style Transfer using Google Colab
https://thomasdougherty.ai/class-style-transfer/

- Combined Mask R-CNN and Perceptual Losses for Real-Time Style Transfer and Super-Resolution to create class specific style transfers
- Wrote all code in Google Colab with UI so users can upload images or videos and perform their own class style transfers using Google Colab's resources
- Wrote blog post on usage of code and description on the class style transfer algorithm

Stabilizing neural style-transfer for videos with PyTorch
https://thomasdougherty.ai/pytorch-video-style-transfer/

- Wrote code and blog post on how to stabilize neural style-transfers for videos
- Implemented additional loss function to reduce the temporal instability present in video style transfers
- Converted repository originally written in Caffe to PyTorch

thomasdougherty.ai
- Personal website for educational topics in artificial intelligence
- Designed website with HTML/CSS/JS, hosted on GitHub Pages