Andrew August

713-560-8192 | aaugust288@gmail.com | linkedin.com/in/andrew-august | ajaugust.com

Professional Experience

Capella Space Remote
Data Scientist *05/2022 – 05/2023*

- Developed analytics products for a mid-sized startup that specializes in collecting and selling high resolution synthetic-aperture radar imagery.
- Collaborated with product teams to scope a marketable computer vision model, worked with external services to curate a training set, developed a data pre-processing pipeline, adapted open-source code to train a model, and worked with our deployment specialist to place the model in a production environment.
- Conducted experiments to assess the impact of meta-features on model performance, focusing on factors such as incidence angle, energy polarization, noise amplitude, sensor version, resolution, and geography. My work identified areas requiring additional data collection and tailored pre-processing, ultimately leading to model improvements.

Pacific Northwest National Lab Seattle, WA
Data Scientist *05/2018 – 05/2022*

- Developed solutions across a range of projects in science, security and energy. My primary focus was 1) leveraging machine learning to enhance scientific understanding and 2) investigate the security vulnerabilities inherent in machine learning models.
- Worked on projects related to adversarial machine learning, remote sensing, few shot learning, optical character recognition, hurricane modeling, HVAC simulation, molecular imaging, and wind simulation. My deliverables consisted of publications, software, and presentations to funding agencies.
- Adapted open-source code for in-house datasets or implemented methods directly from publications when open source wasn't available.
- Networked to become an ML point-of-contact for researchers beyond my immediate group—I advised or contributed to projects in groups such as Coastal Sciences, Nuclear Engineering, and Building Energy.
- Promoted to Data Scientist after 8 months of consistent output and positive feedback as a Research Associate.
- Contributed to workforce development through mentoring interns & junior staff, on-boarded new hires, and conducted interviews.
- Managed in-house GPUs—monitored Docker resources, installed CUDA & python libraries, coordinated physical restarts, etc.
- Acquired TS/SCI security clearance and worked in a SCIF.

Internships

- **Oak Ridge National Lab** (05/2017 – 08/2017): Worked in the Geospatial Analytics group and trained deep learning models for automated mapping applications using tools such as QGIS, Keras, and GDAL.
- **Sandia National Lab** (02/2010 – 08/2010): Developed fluid dynamics simulations for algae biofuel research. Verified simulations against physical experiments and developed differential equation models of algae growth, which I implemented in Fortran. My work led to a conference poster and contributed to an internal report.

Tools

Languages: Python (highly proficient), C (some), Javascript (some)
ML: torch, keras, tensorflow, sklearn, mlflow, weights & biases
Data: numpy, scipy, pandas, torch, gdal, rasterio, geopandas
Collaboration: Jira, Confluence, Github, Gitlab, Bitbucket, Slack, Teams, Mattermost
Misc: Docker, AWS, Conda

Education

University of Tennessee Knoxville, TN
MS Computer Science *2015 – 2017*

University of Hartford Hartford, CT
BS Physics (summa cum laude) *2006 – 2009*

Publications

- Differentiable Parametric Optimization Approach to Power System Load Modeling, *NeurIPS*, 2021
- Deep Learning Experiments for Tropical Cyclone Intensity Forecasts, *Weather and Forecasting*, 2021
- Systematic Evaluation of Backdoor Data Poisoning Attacks on Image Classifiers, *Computer Vision & Pattern Recognition*, 2020
- Koopman approaches to physics-informed machine learning for sea-surface temperature forecasting, *arXiv*, 2020
- Design optimization for a wearable detector array with directionality estimation, *Nuclear Instruments & Methods A*, 2017
- Spectroscopic Signatures of Dynamic Biological Processes in Algal Communities, *Sandia Report*, 2012