

APRIL WALKER

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WORK EXPERIENCE

Machine Learning Engineer

Black Sky

📅 Apr. 2022 - Present

📍 Herndon, VA (Remote)

- Conducted experiments using out-of-domain data to enhance computer vision models through pre-training and annealed training, presenting results to peer groups.
- Reworked an object classification model by improving data extraction processes and applying a new statistical unsupervised framework.
 - Achieved performance metrics surpassing customer-defined thresholds in production environments.
 - Applied techniques that generated statistical confidence, verified to align closely with observed real-world outcomes.
- Leveraged PyTorch Lightning and ClearML to enhance our training pipeline with custom data handling, new sampling techniques, custom training workflows and task-specific Lightning modules.
- Interfaced with AWS to streamline dataset management and incorporate cloud storage into the model training pipelines.

Jr. Machine Learning Engineer

📅 Sept. 2020 - Apr. 2022

- Trained and maintained production-level pixel segmentation and object detection model with CNN frameworks (often YOLO-based, ResNet) w/ TensorFlow in Python.
- Applied supervised and unsupervised computer vision techniques, leveraging Scikit-Learn and TensorFlow, on satellite imagery alongside compartmental mathematical modeling to predict events of interest.
- Developed various time series visualizations and analyses related to trend and anomaly detection.

Machine Learning Consultant

Nectar Labs

📅 Dec. 2019 - Sept. 2020

📍 Fayetteville, AR (Remote)

- Determine and communicate potential use cases and limitations of machine learning models.
- Develop predictive models both for clients and internal use.

INTERSHIPS

Data Science Intern

The Hartford

📅 May 2019 - Aug. 2019

📍 Hartford, CT

- Summer project helped build fundamental machine learning skills such as classification and prediction (via Scikit-learn and H2O.ai), feature selection and dimension reduction, developing data processing pipelines (via Spark), and managing resources on cloud infrastructure (Hadoop, AWS).

Big Data Engineer Intern

L3-ComCept

📅 Jun. 2017 - Aug. 2017

📍 Rockwall, TX

EDUCATION

University of Arkansas

📍 Fayetteville, AR

Master of Science

📅 August 2020

- Field: Statistics and Analytics

Bachelor of Science

📅 May 2018

- Major: Physics
- Concentration: Computational Physics
- Minor: Mathematics

RESEARCH

University of Arkansas

📅 Oct. 2018 - Aug. 2019

Dr. Cheng's Climate Science Lab

- Utilized various statistical inference methods with a focus on the Bayesian approach to predict extreme temperature events with nonstationary models in R.

📅 Aug. 2016 - Dec. 2018

Dr. Lehmer's Astrophysics Lab

- Utilized Python, Bash, Tcl, and R in conjunction with astronomical software (CIAO, XSPEC, DS9) to process, analyze, and visualize data for x-ray binary research projects.

SKILLS

Programming Languages

Python, R, C/C++, SQL (MySQL), JavaScript, MATLAB, Java, Scala

Big Data/ ML Tech

PyTorch, **Scikit-Learn**, **TensorFlow**, H2O.ai, OpenCV, Hadoop, Spark

ML Algorithms and Concepts

Computer Vision, **Neural Networks** (YOLO, ResNet), **Time Series Analysis**, **Anomaly Detection**, Compartmental Models, GLM/Regression, GBMs, A/B Testing, Boosting, Clustering, Trees

Other Computer Skills

GNU/Linux, Jupyter, Bash/Shell, Git, AWS, Jsonnet