APRIL WALKER

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WORK EXPERIENCE

Machine Learning Engineer
Black Sky

📅 Apr. 2020 - Present 📍 Herndon, VA (Remote)

- Reworked an object classification model by improving data extraction processes and applying a new statistical unsupervised framework.
  - Performance metrics were improved from below prototype thresholds within developer environments to exceeding customer set thresholds within production environments.
  - Vector transformations applied to detect polygons allowed for multiple inputs per object with which statistical confidence could be efficiently produced and verified to be consistent with real life values.
- Improving on current production models by re-evaluating current frameworks and re-training models using approaches which target pain points.

Jr. Machine Learning Engineer

📅 Sept. 2020 - Apr. 2022

- Trained and maintained production level pixel segmentation and object detection model with CNN frameworks utilizing TensorFlow in Python.
- Used supervised and unsupervised computer vision techniques on satellite imagery in conjunction with compartmental mathematical modeling to predict events of interest.
- Applied clustering techniques from Scikit-learn on geospatial data to automatically determine regions of interest.
- Developed various time series visualizations and analyses related to trend and anomaly detection.

Machine Learning Consultant
CopiedCode

📅 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 infastructure (Hadoop, AWS).

Big Data Engineer Intern
L3-ComCept

📅 Jun. 2017 - Aug. 2017 📍 Rockwall, TX

- Developed an Apache Maven library for geospatial tagging using Java and SQLite
- Used Akka to integrate a Scala Rest API into an existing Java project.

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

ML Algorithms and Concepts
Computer Vision, *Neural Networks* (*CNNs*, RNNs, LSTMs, MLPs), *Time Series Analysis*, *Anomaly Detection*, Compartmental Models, GLM/Regression, GBMs, Boosting, Clustering, Trees

Geospatial Tech
QGIS, Shapely, Rasterio

Other Computer Skills
GNU/Linux, Jupyter, Bash/Shell, Git, AWS