Zachary Blackwood

Machine Learning Engineer and Python Developer

Experience

DTN, West Lafayette, IN Machine Learning Engineer, April 2018-Present

- Creating and maintaining scalable computing and data storage/access for data science team with AWS EC2, S3, EFS, Batch & Lambda
- Deploying and maintaining infrastructure for the data science team on AWS, including scalable computing, and data access/storage
- Training developers in Python development and best practices through code feedback, mentorship conversations and python training seminars
- Building and maintaining a distributed ML training pipeline for multiple production models that provide **electric utility outage prediction**
- Creating and maintaining a data catalog tool which enables Data Scientists across the company to create new and access new data sets for modeling and analysis

Spensa, West Lafayette, IN Full Stack Web Developer, July 2015-April 2018

- Developing end-to-end features to conform to both detailed and limited specifications derived through conversations with product management
- Managing and scaling web servers and PostgreSQL servers with a growing customer base and seasonal demand spikes
- Integrating with several third-party APIs to allow users to asynchronously move terrabytes of data to and from these other services
- Technical management for multi-million dollar long-term contract, including prioritizing tasks, training and assistance for a team of developers and facilitating customer and product management relationships
- Monitoring and maintaining system to address outages and various other customer issues

Lewis Cass, Walton, IN High School Teacher, September 2010-July 2015

- Teaching courses including Physics, Computer Science & Principles of Engineering
- Introducing multiple new courses to the school, including beta-teaching **PLTW** Computer Science
- Researching, developing, delivering and revising effective lessons based on student success and student and mentor feedback
- Creating and mentoring the Iron Kings, a **FIRST Robotics** team, who were able to advance to the World Championship in our rookie season
- Mentoring the team members in fundraising, software development, electrical wiring, etc. in the process of creating our robot

Technical Experience

Open Source

Contributed to python libraries, including **intake** • **intake-geopandas** • **apache arrow**

Co-developer and maintainer of a **custom plugin** for Intake which allows for the automatic population of a data catalog with data files matching a certain pattern

Programming Languages

high proficiency: Python

medium proficiency: JavaScript

Technical Tools

ci/cd tools: Bitbucket pipelines, GitLab, Bamboo

data science packages: Pandas, Intake, Scikit-learn, Lightgbm

cloud architecture: Amazon Web Services (Batch, Fargate, Lambda, EC2, S3, RDS, CloudFormation, CloudWatch, IAM)

web development: Django, backbone.js, Postgresql, Postgis, Django Rest Framework, HTML, CSS

Side projects

Web development, design & hosting for various non-profit sites such as:

Gentle Reformation • **Women's Retreat** • **How Shall We Then Vote**

Education

2009-2011 **M.S.Ed, Mathematics and Physics Education**; Purdue University (West Lafayette, IN)

2005-2009 **B.S., Math & Physics**; Purdue University (West Lafayette, IN)

Minor: Computer Science

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