Zachary Mackin

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Experience

Pacific Gas & Electric / Operations Data Analyst
01/2/2024 - PRESENT
- Manage data management projects and develop models for the Public Safety Power Shutoff team to help reduce the risk of wildfires by 94% .
- Automate manual processes using Python, Foundry, and SQL to enhance data processing efficiency and reduce manual errors.
- Fulfill internal and external data requests, generating data analyses and data visualizations to enhance efficiency and comply with regulations.

Pacific Gas & Electric / Data Engineering Intern
05/20/2023 - 12/31/2023
- Collaborated with a team of engineers to develop and implement data pipelines and reports for the Public Safety Power Shutoff team and reduce the risk of wildfires.
- Automated manual processes using python to enhance data processing efficiency and reduce manual errors.
- Worked closely with cross-functional teams to understand business requirements and translate them into scalable data engineering solutions.

UC Berkeley School of Information / Machine Learning Researcher
08/27/2023 - 12/17/2023
- Employed computer vision in order to identify illegal sand mining operations in India.
- Developed a pipeline to extract raw geospatial data in order to do so with 99% accuracy.

Center for Human Sleep Science / Machine Learning Researcher
01/20/2023 - 05/20/2023
- Utilizing PyTorch I employed various time series models in an attempt to develop a novel approach to forecasting human sleep data.

UC Berkeley EECS Department / Machine Learning Researcher
08/20/2022 - 12/17/2022
- Researched developing a more effective UAV for the DARPA SymCPS competition.
- Employed Python and AWS to develop more effective Deep Learning models to develop models for the UAVs that were 3x more efficient than previous UAVs.

Chesapeake Legal Alliance / Software Developer
01/21/2022 - 06/01/2022
- Explored and processed data on the land use loading rate within the Chesapeake Bay.
- Developed a mapping application and additional explanatory materials using ArcGIS and Python to display this data, which has been used by the government of Maryland.

The Economist Intelligence Unit / Data and Research Analyst
08/25/2021 - 01/20/2022
- Developed and improved a model that classified a country's risk of default such that it outperformed competitors. Utilized Pandas and SKLearn to clean data and produce the model.

University of California, Berkeley / Instructor and Tutor
05/20/21 - 5/10/2023
- Educate students in introductory mathematics, statistics, and data science courses.
- Primarily an instructor for Data 8, an introductory Data Science course, in which I teach over 100 students, maintain the course website, and develop course curriculum.

Education

University of California, Berkeley
05/20/2024

Bachelor of Arts in Computer Science and Statistics

GPA: 3.835

Relevant Coursework: Principles & Techniques in Data Science, Data Structures, Probability and Mathematical Statistics in Data Science, Economic Models, Calculus, Multivariable Calculus, Linear Algebra and Differential Equations, Machine Learning, Optimization Models in Engineering, Algorithms, Deep Learning, Linear Modelling, Real Analysis, Data Engineering, Time Series

Skills & Projects

Programming Languages: Python, R, Java, SQL, Regex

Libraries and Frameworks: Excel, Numpy, PySpark, Pandas, GGplot, SKLearn, Seaborn, Matplotlib, PyTorch, Tensorflow, Palantir Foundry

Gitlet: Used Java to build a version control system that tracks and commits file changes, reverts and adds to and from previous versions, efficiently searches and tracks data, and creates branches.

College Basketball: Webscraped College Basketball Data, then developed a Deep Learning model with strength of schedule adjustments that outperforms ESPN's model in predicting college basketball games.

Adversarial Machine Learning: Looked at various techniques to defend a deep neural network against adversarial examples, implementing methodologies from various papers such as "Fighting Gradients with Gradients: Dynamic Defenses against Adversarial Attacks".