

Armyben Patel

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EDUCATION

Master of Science in Artificial Intelligence
Bachelor of Science in Applied Mathematics
Concentration in Data Science

San Jose State University, San Jose
University of California, Berkeley

May 2023
May 2021

SKILLS

Languages and Frameworks: Python, R, C++, Scala, Apache Spark, Keras, Tensorflow, OpenCV, Scikit-Learn

Databases: MySQL, Microsoft SQL, Snowflake SQL, MongoDB

Analytical Tools: Tableau, Power BI, Excel, Matlab, Weka, QuickSight

RELEVANT EXPERIENCE

Machine Learning Research Assistant, *SJSU Research Foundation*

June 2022 - Present

- Designing simulation of microgrids for power generation
- Employing RL algorithms to develop an efficient decentralized energy system for power needs

Data Analyst Intern, *Capital One*

June 2022 - August 2022

- Monitored data using Snowflake (SQL) and Databricks (Spark) to determine if settlement arrangements were made to an authorized party
- Analyzed patterns in the data to identify a solution that resulted in a 97% decrease in false positive rates
- Identified edge cases and proposed a solution to determine if they are true positives or false positives
- Used QuickSight to visualize data to enable easy and intuitive infraction-level research

Data Science Intern, *Omdena*

November 2020 - May 2021

- Worked with a team of AI engineers to build a machine-learning solution for land ownership in Kenya
- Trained Named Entity Recognition models on 32k+ "Land Registration Act" notices after annotating them
- Achieved 0.95 precision and 0.97 recall from the customized SpaCy NLP model

Data Science Researcher, *General Electric Additive*

August 2020 - December 2020

- Built a predictor model to increase accuracy and reduce iteration time of 3D printed parts
- Generated 80k images and CSV files from data obtained from sensor and video feeds of the 3D printing process
- Performed Exploratory Data Analysis (EDA) utilizing Python libraries & Tableau on generated data
- Implemented various machine learning algorithms resulting in an 82% testing accuracy from the linear model

PROJECTS

Wildfire Prediction

May 2022

- Created a dataset of images symbolizing fire/non-fire and performed data augmentation
- Developed a CNN model from scratch and experimented with different activation functions, optimizers, and regularization methods
- Concluded that the "swish" activation function with dropout rate of 0.2 and SGD optimizer outperformed others
- Trained customized VGG16 and DenseNet121 and achieved 92% test accuracy from VGG16 and CNN

3D Object Detection on Waymo data

July 2022

- Converted the Waymo 3D object detection dataset into KITTI format
- Benchmarked efficient and current 3D algorithms such as MVX-Net, SECOND, Point RCNN, and PointPillars on the converted data using MMDetection3D
- Devised tailored configuration of these 3D algorithms to make efficient computation and accurate models to test on LiDAR Data and image data
- Improved accuracy by 5% and inference speed by more than 2s
- Visualized LiDAR data using Open3D and predicted 3D bounding boxes for the objects