

Vishakh Rama Pillai

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EXPERIENCE

Intel Corporation

Remote

Data Scientist

Nov 2022 - Sept 2024

- Deployed a production-grade convolutional neural network (CNN) image recognition algorithm trained on over 200,000 images utilizing TensorFlow, achieving a 90% test accuracy and a 40% reduction in manual labor hours.
- Created and maintained a real-time logging system for the online ADC server to track performance metrics and accuracy triggers for retraining with Scikit-Learn, leading to a 30% decrease in response time for issue resolution.
- Delivered offline image classification solutions for glass substrate within 3 weeks of problem definition using Hough transform, Canny edge, and blob detection with a 25% increase in accuracy compared to previous methods.
- Optimized Intel's cross-departmental long-range planning process (LRP) by transitioning yield projections from Excel into a Python Streamlit dashboard, reducing decision-making time by 20% and data collection time by 50%.
- Integrated MySQL database, Azure SSO, and Cloud Foundry deployment in LRP application infrastructure. Implemented OOP programming to automate reviewing ATTD Yield predictions, reducing review time by 30%.
- Developed a REST FastAPI tool for yield model logic, improving response time for yield projection requests by 40% and streamlining communication between yield, product architecture, and business unit teams.
- Utilized advanced Python programming to create a 30% improvement in forecasting accuracy by developing a dynamic Bokeh visualization dashboard with JavaScript callbacks that tracked module yield trends.

Intel Corporation

Chandler, AZ

Data Analyst

July 2019 — Nov 2022

- Analyzed time series data and tool parameters to identify yield degradation signals, driving a 15% reduction in defect rates within the manufacturing process.
- Led a collaborative task force effort with Wet Etch modules that created \$100,000 annual cost savings with a 25% reduction in defects through root cause analysis and defect tool trend monitoring via JMP and Python.
- Developed a novel LSTM and transformer time-series forecasting algorithm utilizing Pytorch with a 10% increase in equipment efficiency by notifying tool owners with early warning detection of yield degradation.

EDUCATION

Masters of Information and Data Science (MIDS)

May 2020 - August 2022

UC Berkeley

Bachelor of Science in Chemical and Biomolecular Engineering

August 2015 – May 2019

UC Berkeley

PROJECTS

Leopard Re-Identification Capstone

May 2022—August 2022

- Created a YOLOv5 model for leopards and 20% negative samples with 88% mean average precision @ 0.5:0.95 IoU
- Formulated a classification algorithm for unique leopards with an 87% CV accuracy using embeddings via triplet loss

Automated Essay Scoring

May 2021—August 2021

- Formulated a competitive two-stage NLP framework of 74% accuracy across all prompts with adversarial essay detection using coherence, semantic, and prompt-relevant scores via BERT-based LLM and relevant literature
- Engineered a coherence model using BERT's sentence pairing feature to capture the coherence of longer passages

SKILLS

Python, MySQL, Computer Vision, Keras, Artificial Intelligence (AI), Optimization, Pytorch, Tensorflow, OpenCV, Pandas, Numpy, Scikit-Learn, Git, R, LLM, Data cleaning and processing, Data modeling and evaluation, regression, classification, supervised/unsupervised learning, time-series forecasting, versioning, testing, cloud deployment