Rithvik Srinivasaiya

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EDUCATION

Texas A&M University **Aug 2023 - Expected Dec 2024**
Masters of Science in Data Science *TX, United States*
Courses: Machine Learning, Deep Learning, Information Storage and Retrieval, Artificial Intelligence, Databases

Indian Institute of Technology(IIT) Kharagpur **Jul 2017 - May 2022**
B.Tech & M.Tech in Industrial and Systems Engineering *West Bengal, India*
Courses: Linear Algebra for AI & ML, Data Analytics, Probability and Statistics, Programming and Data Structures

PROFESSIONAL EXPERIENCE

Stochastic Geomechanics Laboratory, Texas A&M University **May 2024 - Present**
Student Technician - Research *Texas, Unites States*
• Formulated risk assessment framework using ML and Bayesian network models for the North American semiconductor supply chain, mapping and quantifying critical variables influencing supply chain dynamics.
• Managed data discovery for over **150** variables, utilizing AutoML and Power BI for data preprocessing and analysis.

Atomberg Technologies **Jun 2022 - Jul 2023**
Specialist - Quality Assurance *Pune, India*
• Revamped the data monitoring systems of KPIs of the plant by implementing a dashboard system using SCADA, PostgreSQL, and Tableau that enhanced industrial operations by **60%**, and reduced human effort time by **36 hrs** per week.
• Developed ML models for defect data analysis, reducing defect rates by **4.32%** and saving **$150K** monthly in scrap costs.
• Spearheaded the manufacturing quality initiatives for two Atomberg products, reducing field failure rates by **1.5%**.

Center of Excellence in Safety Engineering and Analytics, IIT KGP **Jul 2021 - Nov 2021**
Research Assistant *Kharagpur, India*
• Architectured a dilated CNN framework to estimate the gaze direction of the human eye from facial images using OpenCV.
• Performed hyperparameter tuning, data augmentation, and dropout regularisation, improving test accuracy by **5.7%**.

PROJECTS

P.E.E.R - Personalized Education Enhancer and Recommender **Jan 2024 - May 2024**
• Built P.E.E.R, integrating Google Books and Udemy APIs to aggregate online educational resources into a single platform, utilizing AWS DynamoDB to streamline data pipelines for **160k** entries.
• Engineered a recommendation engine using RoBERTa and a search engine with PostgreSQL FTS and GIN indexing, incorporating a user feedback system to enhance personalized recommendations based on user interactions.

Digit Recognition with Multimodal streams **Jan 2024 - May 2024**
• Developed separate encoders for images and audio streams on the multimodal MNIST dataset using TensorFlow.
• Visualized embeddings with t-SNE and analyzed clustering with k-means, achieving an F1 score of **0.993** on the test set.

Comparative Analysis of KNN and CNN on FashionMNSIT **Aug 2023 - Dec 2023**
• Implemented CNN and KNN to classify FashionMNSIT dataset and assessed models through precision, recall, and F1 scores.
• Created a blog post detailing the classification process, featuring insights into its implications in the clothing industry.

Predicting Traffic Flows using Regression Analysis **Jul 2021 - May 2022**
• Designed an innovative traffic forecasting model to improve the existing Intelligent Transportation System (ITS), combining multiple ensemble regression techniques using weights and achieved **87.3%** accuracy in predicting road congestion levels.
• Created a user-friendly website that offers travel recommendations based on user inputs and real-time traffic data.

TECHNICAL SKILLS

• **Languages** : Python, SQL, C, C++, HTML/CSS
• **Libraries**: NumPy, Pandas, Scikit-learn, NLTK, SpaCy, Matplotlib, Seaborn, Plotly, OpenCV, Huggingface, TensorFlow, Keras, PyTorch, Torch, SqlAlchemy
• **Tools and Databases**: Tableau, AWS, Postgres, MongoDB, Docker, Git, NoSQL

CERTIFICATIONS & HONOURS

• Honored with **Spot Award** at Atomberg for quick adaptation of line quality control activities and OEE scores improvement of the manufacturing plant. (2022 - 2023)
• Certifications: Google Data Analytics & Neural Networks and Deep Learning, Coursera. (2023)