RITHVIK SRINIVASAIYA

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EDUCATION

Texas A&M University, College Station   **Aug 2023 - Expected May 2025**
Masters of Science in Data Science   *TX, United States*
Courses: ML, AI, Databases, Statistical Foundations for Data Science, Data Visualization, Information Retrieval

Indian Institute of Technology(IIT), Kharagpur   **Jul 2017 - May 2022**
B.Tech & M.Tech in Industrial and Systems Engineering   *West Bengal, India*

WORK EXPERIENCE

Stochastic Geomechanics Laboratory, Texas A&M University   **May 2024 - Sep 2024**
Graduate Student Researcher   *Texas, Unites States*

- Developed ML and Bayesian network-based risk assessment framework for the North American semiconductor supply chain for the Department of Homeland Security, identifying & quantifying critical variables that influence supply chain dynamics.
- Managed cross-border data integration for **150+** datasets, leveraging Dataiku's data lake, and **PowerBI** for reporting.

Atomberg Technologies   **Jun 2022 - Jul 2023**
Specialist - Data Science & Analytics   *Pune, India*

- Developed predictive analytics solutions on **AWS SageMaker** for defect data analysis, reducing defect rates by **57%** and saving **$1.75M** annually in scrap cost. Honored with Spot Award for improved OEE Scores of the plant.
- Utilized boosting algorithms to build a **Real-Time Anomaly Detection** solution deployed on edge IoT device, employing down sampling and feature engineering for preprocessing, boosting industrial operations by **40%**.
- Engineered **ETL** pipelines to migrate data and analytics to **AWS** by utilizing **SCADA** for data acquisition, **AWS S3** and **Amazon SDK** for storage and seamless integration, reducing data retrieval time by **15%** and storage costs by **25%**.
- Built KPI dashboards on **Tableau**, integrating AWS services(**S3, Glue, Lambda, Athena**), enabling faster decisions.
- Led a cross-functional team in overhauling QA strategies for 2 Atomberg products, reducing field failure rates by **1.5%**.

Center of Excellence in Safety Engineering and Analytics, IIT KGP   **Jul 2021 - Nov 2021**
Data Science Intern   *Kharagpur, India*

- Built **ResNet** and **VGG** based classifiers using PyTorch to estimate the human eye gaze direction using facial images.
- Conducted optimization research with hyperparameter tuning, and dropout regularization, achieving a **5.7**% accuracy boost.

PROJECTS

Counterfactual Classifier   **Aug 2024 - Present**

- Developed a counterfactual classifier to assist the Dept. of Psychology, TAMU's ongoing research using **NLP** techniques.
- Utilized **AWS S3** and **AWS SageMaker** with **XGBoost** classifier for model training, achieving an F1 score of **0.87**.
- Dockerized and deployed on **AWS EC2** with **ECR**, ensuring scalability, and optimized workflows with **MLOps** practices.

Video Summarizer AI Agent   **Aug 2024 - Dec 2024**

- Designed a video summarization tool leveraging **Agentic AI**, and Google **Gemini 2.0**, enabling real-time video analysis.
- Built a **Streamlit** interface for video uploads and queries, using Phidata to optimize AI orchestration and web research.

Personalized Education Enhancer and Recommender   **Jan 2024 - May 2024**

- Built P.E.E.R, a unified educational platform by aggregating Google Books and Udemy resources, utilizing **Amazon RDS**.
- Developed a recommendation system using **DistilBERT**, achieving an MRR of **0.8**, resulting in improved user engagement.
- Deployed using **AWS Elastic Beanstalk** and **AWS CodePipeline**, with **CI/CD** managed through **GitHub Actions**.

Mental Health Assistant   **Jan 2024 - May 2024**

- Created a GenAI-based Chatbot using **RAG** with **LangChain** and **GPT-3** for document retrieval and question answering.
- Utilized **ChromaDB** and **FAISS** for vector stores, achieving **BLEU** of **57.8** and **ROUGE-L** of **0.91**.

TECHNICAL SKILLS

- **Languages**: Python, SQL, C, C++, HTML, CSS
- **Tools & Frameworks**: AWS, CI/CD, Docker, Git, GitHub, Tableau, PowerBI, Scikit-learn, NLTK, SpaCy, Matplotlib, Seaborn, Plotly, OpenCV, Huggingface, TensorFlow, Keras, PyTorch, Torch, SqlAlchemy, Streamlit
- **Platforms & Databases**: AWS, Redshift, MongoDB, PostgreSQL, MySQL