KRITHIKA PADMANABHA SUWARNA

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EDUCATION

Master of Science in Business Analytics, GPA: 3.9 Aug 2024 - Dec 2025
University of California, San Diego, CA

- **Relevant Courses:** Customer Analytics, Analysing Large Data, Data Modeling with SQL and ETL, Statistics for Business Analytics, Business Intelligence System, Scalable analytics, Web mining and Recommender System

Bachelor of Technology, Computer Science, Specialization in Data Science, GPA: 3.85 Aug 2017 - May 2021
PES University, Bangalore, India

- **Relevant Courses:** Data Analytics, Database Management system, Big Data, Cloud Computing, Machine Learning, Data Structures and Algorithms, Design and Analysis of Algorithms, Linear Algebra Applications, Software Engineering

EXPERIENCE

Member of Technical Staff 2, VMware by Broadcom, Bangalore, India Jul 2021 - Jun 2024

- Played a pivotal role in the development of **vSAN**, a leading software-defined storage solution, by managing and optimizing the **Local Log-Structured Object Manager (LSOM)** for enhanced storage performance and reliability.
- Led the Fastboot LLOG recovery and verification initiative, reducing recovery time from **hours to under 10 minutes** and improving system recovery accuracy by **15%** through precise LSOM state validation and testing framework enhancements.
- Spearheaded the integration of NVMe device support into the LSOM Physical Log, collaborating with cross-functional teams to achieve **20% performance gains** and extend the platform's storage capabilities.
- Engineered a robust LSOM tracing and debugging infrastructure, implementing workflow-specific tracing to **optimize troubleshooting processes**, resolve critical bottlenecks, and boost system efficiency by **22%**.
- Earned promotion to **Software Engineer Level 2** within one year, recognized for consistently delivering high-impact results and demonstrating exceptional technical expertise

Research and Development Intern**,** VMware by Broadcom, Bangalore, India Jan 2021 - Jul 2021

- Delivered the LSOM Tracing Audit project, integrating unique identifiers and additional trace points by improving traceability across **millions of** LSOM and PLOG traces while resolving trace drop issues and **streamlining debugging processes**.
- Implemented a **Python tool** leveraging **Slack APIs** to enable **10,000+** users to convert HTML to Slack Markdown for customized responses, reducing developer reliance and significantly improving user autonomy and **operational efficiency**.

Full-Stack Development Intern, QtPi Robotics, Bangalore, India May 2019 - Jul 2019

- Built a scalable Python learning platform using **React.js** for dynamic front-end and **MongoDB** for efficient data management.
- Developed **data pipelines** to analyze school performance metrics, enabling personalized and customized learning experiences.

PROJECTS

Predictive Modeling for Amazon Health and Personal Care Products, University of California, San Diego Nov 2024

- Developed an SVD-based collaborative filtering system, reducing MSE from **2.45 to 1.83** and implemented an Embedding-Based Similarity Collaborative Filtering (E-SCF) model using **Word2Vec**, enhancing recommendation precision by 15%.
- Conducted EDA on **494,121** Amazon reviews, extracting insights to refine user-product interaction modeling, improving prediction accuracy by **12%**.

Data-Driven Forecasting for Bike-Sharing Systems University of California, San Diego Dec 2024

- Built predictive models using time series analysis and **regression techniques** to forecast bike usage and identify high-demand routes, achieving a **19% improvement** in demand prediction accuracy.
- Performed advanced **data analysis** on trip data, leveraging **Python, SQL,** and **visualization** tools to uncover insights on trip durations and temporal usage patterns, driving data-driven optimization strategies for station management and pricing.

Detection of COVID-19 and its severity using Chest X-rays and EHR *Publication*, PES University May 2021

- Enhanced Chest X-ray images by resizing and performing RGB reordering, optimizing them for a **VGG16-based deep learning** model, and achieving **98% accuracy** in classifying COVID and non-COVID cases.
- Developed and fine-tuned a **Convolutional Neural Network** and **MobileNet transfer learning** model to evaluate chest X-ray opacity, accurately predicting COVID severity into Mild, Moderate, and Severe with an **85% success rate**.
- Designed and deployed a Boosted **Random Forest model** using Sklearn to analyze electronic health data and predict patient recovery outcomes without hospitalization, reaching a **96% accuracy rate**.

SPECIALIZED SKILLS

- **Languages:** Python (pandas, NumPy, Matplotlib, Seaborn), SQL, Java, C/C++, R, Shell Scripting, MATLAB, Scala, A/B testing
- **Databases:** MySQL, PostgreSQL, NoSQL, Snowflake, MongoDB, Django
- **Operating/Cloud Systems:** Microsoft Windows, Excel (Advanced), Linux, Docker, Kubernetes, AWS EC2, Agile methodology
- **Analytics Tools:** Tableau, Power BI, TensorFlow, Keras, Scikit-learn, Flask, Hadoop, Apache Spark, Hive, Jira, Git, GitHub