Preethi Manne

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Education

University of California, San Diego **Sep. 2023 – June 2027**
Bachelor of Science in Data Science *La Jolla, California*

Awards

Undergraduate Research Scholarship Recipient ($2250 Grant) **September 2025**
University of California, San Diego

DataHacks 2025 Hackathon Winner **April 2025**
University of California, San Diego

Experience

Farmer's Insurance **June 2025 – Present**
Data Science Intern *Woodland Hills, CA*

- Developed an XGBClassifier predictive model on Amazon SageMaker to predict the likelihood of a customer buying a policy within 90 days, enabling agents to prioritize high-potential customers and improve conversion efficiency.
- Owned the ETL: migrated raw lead data from PostgreSQL to Snowflake, engineered features, and materialized a curated training table by joining multiple source tables.
- Model resulted in workload reduction of 66.7 percent for agents.
- Automated the reporting pipeline by writing optimized SQL queries in Snowflake, developing stored procedures, and chaining tasks to run end-to-end workflows; results fed into KPI dashboards in Power BI.

UCSD Data Science Department **March 2025 – Present**
Instructional Assistant *La Jolla, CA*

- Tutored core data structures and algorithmic concepts including BFS, DFS, time complexity analysis, hashing, graph algorithms (Kruskal's, Dijkstra's, Prim's, Bellman-Ford)
- Led office hours and one-on-one sessions to support over 120 students with coursework, conceptual understanding, and debugging
- Graded homework and exams, delivering timely, constructive feedback to support learning

Projects

Mood-Based Music Recommender **Jan 2025 – June 2025**
Python, scikit-learn, XGBoost, Natural Language Processing, Flask, React.js

- **Won 1st place out of 20+ teams**
- Scraped 2,000 YouTube songs and extracted 11-dimensional mood vectors using a fine-tuned RoBERTa model.
- Designed a SQLite database to store music metadata, user preferences, and feedback, enabling fast retrieval and real-time updates for personalized recommendations.
- Clustered songs into 5 emotional groups using K-Means with multi-metric validation.
- Mapped user input to the closest cluster via cosine similarity and retrieved top songs through intra-cluster search, achieving a 10× speedup in response time.
- Applied XGBoost for adaptive re-ranking based on feedback, reducing validation error by 42% and achieving 89% user satisfaction with recommendations.

FitSync **March 2025 – May 2025**
Python, TensorFlow.js, MediaPipe, React, Node.js, Supabase

- Developed a real-time fitness application using React and TypeScript that provides instant feedback on exercise form by comparing user movements with reference poses.
- Implemented computer vision using MediaPipe's pose detection API to track 12 limb vectors.
- Developed a custom pose similarity algorithm using TensorFlow.js that calculates weighted cosine similarity between user and reference poses.
- Implemented secure user authentication and data persistence using Supabase, allowing users to track their progress.

Technical Skills

Languages: Python, JavaScript, HTML/CSS, SQL
Technologies/Frameworks: Pytorch, Tensorflow, Pandas, Dask, Spark, Hadoop, Snowflake, sk-learn, Amazon SageMaker AI, D3.js, React.js, Node.js, Next.js, SQL, MongoDB, Express, agile, CI/CD, PowerBI, data modeling, Tableau, Excel, Linear Algebra, Project Management, data analytics, statistics, cloud infrastructure, S3
Relevant Coursework: Data Structures, Algorithms, Data Management, Systems for Scalable Analytics, Data Visualization, Theoretical Foundations of Data Science, Statistical Methods
Certifications: AWS Certified Cloud Practitioner, AWS Certified Machine Learning Engineer - Associate