SHREYA LAKSHMAN

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SUMMARY

Data Scientist with 4 years of experience, specializing in LLMs, bias mitigation, and end-to-end ML pipelines, combining applied research with scalable, production-ready solutions

EDUCATION

PES University **Aug 2017 - May 2021**
Bachelor of Technology
- **Achievements:** Received merit scholarship for 3 years

University of Southern California **Aug 2023 - May 2025**
Master of Science, Applied Data Science

EXPERIENCE

TipTop Technologies **Sep 2024 - Present**
Data Scientist *Sunnyvale, CA*
- Engineered a Slack bot handling 500+ weekly queries with 96% accuracy in under 2 seconds by dynamically processing contextual cues and enabling file uploads, showcasing skills in efficient response optimization
- Designed a personalized recommendation system for TipTop's AI platform, boosting click-through rates by 25% and reducing irrelevant content exposure by 30%
- Developing a social listening pipeline to extract sentiment and topic trends from user-generated content using NLP and clustering, enabling feedback-driven product iteration

Hewlett Packard Enterprise **Jan 2021 - May 2023**
MLOps Engineer *Bangalore, India*
- Automated ML pipelines using Ansible and Python, reducing manual overhead by 85% and saving 200+ engineering hours monthly
- Containerized model deployment with Docker, improving scalability and cutting deployment time by 50%.
- Implemented CI/CD workflows with Jenkins to support seamless model integration and deployment, achieving a 98% success rate
- Collaborated with cross-functional teams to develop monitoring and anomaly detection scripts in Python, enhancing system reliability and debugging efficiency by 20%

PROJECTS

Mitigating Bias in AI Hiring: A ChatGPT vs. DeepSeek Study **Jan 2025 - Present**
- Benchmarked ChatGPT vs. DeepSeek on resume rankings using demographically controlled datasets across 10 job domains
- Measured bias via Disparate Impact, Demographic Parity, Sentiment Polarity, WEAT, and CMDS
- Applied prompt engineering, fairness-aware re-ranking, and counterfactual fine-tuning to mitigate model-specific disparities

Benchmarking of ML Algorithms to Predict Mortality in Sepsis **Jun 2024 - Present**
- Developed and evaluated shallow (AdaBoost, SVM, LDA, RF) and deep (MLP) models, with Voting Classifier achieving 80% accuracy
- Applied PCA for dimensionality reduction, SMOTE to handle class imbalance, and engineered clinical features to improve robustness
- Integrated cross-validation and ensemble methods to benchmark predictive performance across modeling approaches

Self Correction in LLMs **Jun 2024 - Present**
- Conducted error analysis across GPT-4o, GPT-3.5, and Llama models, identifying cross-model bias in error classification
- Investigating jury-based self-correction mechanisms, focusing on partial and full consensus for error resolution
- Researching prompt refinement strategies to improve model prediction accuracy by analyzing positional bias and attention mechanisms

SKILLS

- **Programming Languages**: Python, R, C, PHP, SQL
- **Tools & Frameworks**: Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn, Keras, TensorFlow, Spark, Hadoop, Git/GitHub, Unix Shell, Ansible, Docker, Kubernetes, Jenkins, AWS, VCenter, Latex
- **AI/ML Techniques & Models**: Generative AI, Large Language Models (LLMs), Prompt Engineering, Retrieval-Augmented Generation (RAG), Classification, Clustering