Rithesh Kumar

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SUMMARY

AI enthusiast and MS in Computer Science student at UCSC, focusing on NeuroSymbolic Generative AI and Natural Language Processing. Experienced in developing, deploying, and optimizing models across finance, social media, and healthcare sectors. Passionate about driving innovation through cutting-edge AI research, particularly in research-oriented roles in Machine Learning and Artificial Intelligence.

EXPERIENCE

Artificial Intelligence Intern - Accretional
06/2024 - Present, San Francisco, CA

- Developed SVM and time-series models for customer delinquency and risk scoring, reducing delinquency by 6% and improving customer satisfaction by 8%.
- Led research on COVID-19's market impact using LSTM-based time series analysis, increasing new customer acquisition by 10%.
- Supervised the development of a credit decision pipeline on Provenir, reducing loan processing latency by 15% and maintenance costs by 20%

Decision Scientist - Goldman Sachs
08/2020 - 07/2023, Bangalore, India

- Developed SVM and time-series models for customer delinquency and risk scoring, reducing delinquency by 6% and improving customer satisfaction by 8%.
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Machine Learning Research Intern - Sprinklr India
05/2019 - 07/2019, Gurgaon, India

- Developed an LSTM model for sentiment analysis of customer reviews, improving data quality by reducing errors by 10%.
- Researched model compression for LSTMs, achieving a 60% size reduction with minimal accuracy loss.

SKILLS

Areas of Expertise: Generative AI, Artificial Intelligence, Natural Language Processing, Computer Vision, Reinforcement Learning, Deep Learning, Model Optimization, Image Processing, AI Model Deployment, Machine Learning Model Evaluation, Data Mining and Visualisation, Pattern Recognition.
Languages: Python, R, C, C++, Javascript, SQL.
Tools: TensorFlow, Keras, PyTorch, spaCy, Scikit Learn, openCV, Pandas, Numpy, Scipy, MySQL, PostGreSQL, Spark, Git.

EDUCATION

Master of Science in Computer Science • University of California Santa Cruz
Santa Cruz, CA • 09/2023 - 05/2025 • 4/4 GPA

- Teaching Assistant for Computer Architecture. 01/2024 - 03/2024
- Teaching Assistant for Ethics and Algorithms. 04/2024 - 06/2024

Bachelor of Technology in Computer Science • NITK Surathkal
Surathkal, India • 08/2016 - 05/2020 • 9.39/10 GPA

PUBLICATIONS

Prostate Cancer Grading using Multistage Deep Neural Networks • Publication
MIND 2021 • Springer

- Developed a novel multi-stage deep learning framework for automated Gleason system grading (GSG) and grade group (GG) classification of prostate cancer cells, achieving an overall diagnostic accuracy exceeding 90% f1-score.

Network Anomaly Detection using ANNs Optimised with PSO-DE Hybrid • Publication
SSCC 2018 • Springer

- Proposed a hybrid PSO-DE algorithm combining Particle Swarm Optimization and Differential Evolution to optimize ANNs for network anomaly detection. Obtained an accuracy of 98.7%, substantially improving the accuracy of conventional ANN-based methods.

PROJECTS

Analysis of Neuro-Symbolic AI for Cognitive, Linguistic, and Philosophical Applications
04/2024 - Present

- Conducted a comparative study on Neuro-Symbolic Knowledge Distillation, Commonsense Reasoning, and Cognitive Architecture, identifying commonalities and addressing their respective shortcomings.
- Proposed a novel architecture combining these fields for Situated Reasoning about norms, intents, and actions, aiming to enhance the linguistic capabilities of current LLM models.

Whispers of the Heart - Sentiment Analysis of Journal for Therapeutic Assistance • Project
04/2024 - 05/2024

- Developed a daily journaling app with sentiment analysis capabilities using the Gemini 1.5 Pro multimodal model, designed to provide therapists with daily insights into their patients' emotions.
- Integrated model explainability to articulate the reasoning process behind sentiment analysis, ensuring privacy while offering meaningful emotional insights.

Academic Video Summarizer and Enhancer using RAG with LLMs • Project
01/2024 - 03/2024

- Developed an LLM-based pipeline for generating video summaries that incorporates external knowledge through Retrieval Augmented Generation, resulting in more comprehensive and accurate summaries.
- Implemented few-shot learning and prompt-based fine-tuning to enhance pre-trained LLM performance, with a 65% user preference over existing summarization methods.

HOBBIES

Blogging - Machine Learning series Writing - Quotes Baking and Crochet