Akhilesh Kasturi

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Education

Northeastern University, Khoury College of Computer Sciences — Boston, MA
Master's in Artificial Intelligence — EGD: Dec 2026
Relevant Coursework: Foundations of AI, Reinforcement Learning, Algorithms

Amrita Viswa Vidyapeetham — Bangalore, KA
Bachelor's in Computer Science and Engineering — July 2019 - July 2023
Relevant Coursework: Machine Learning, Neural Networks and Deep Learning, Mining of Massive Datasets

Technical Skills

Languages: Python, Java, R, C, C++, HTML/CSS, JavaScript, SQL, Shell Scripting
AI/ML: NumPy, Pandas, SciPy, PyTorch, TensorFlow, Scikit-Learn, Keras, Gymnasium, OpenCV, Neural Networks, Statsmodels, Matplotlib, Plotly, Bert, Gemma 2, GPT-2 XL, Meta-llama
Developer Tools: VSCode, Anaconda, VCS (Git), Postman, Docker, Cloud (AWS, GCP)
OS: Windows, macOS, Linux(Ubuntu)

Experience

Ryzklytix Consulting Solutions — Bangalore, KA
Data Analyst — Feb 2024 - July 2024
- Designed scalable back-end systems that improved data processing capabilities by 35% by migrating to MySQL server.
- Analyzed large-scale data workflows and developed 20+ SQL stored procedures that reduced report generation time by 40%.
- Developed an end-to-end MVP(Minimum Viable Product) for the client using Python, Postman, and MySQL.

Deep Vision Analytics (DEEViA) — Bangalore, KA
Machine Learning Engineer — Jan 2024 - Feb 2024
- Researched 50+ GB of LiDAR datasets to develop algorithms that maintained 95% navigation accuracy for autonomous vehicles even in severe weather conditions such as heavy rain, snow, and fog.
- Improved F-1 score of existing architecture by 35% by using a Random Forest classifier on augmented datasets.
- Proposed parallel processing techniques to reduce training times in the order of milliseconds from minutes.
- Designed point-cloud augmentation to address class imbalance, which improved the performance of existing models by 20%.

Reliance Jio — Bangalore, KA
Machine Learning Engineer — Jan 2023 - July 2023
- Designed a CNN to classify users into 5 custom age groups using audio spectrograms achieving a 95% validation accuracy which reduced misclassified ad spends by $150K annually.
- Engineered a gender prediction system achieving 98% F-1 score by initially training a Random Forest classifier on American English samples, then transferred learned weights to adapt the model for 6 Indian regional languages, reducing training time by 40% and improving robustness across various accents and speech patterns by utilizing MFCCs.

Projects

Optimal Satellite Placement (github.com/CS-5100/Satellite) — Sep 2024 - Dec 2024
- Optimized Starlink satellite constellation configurations using local search algorithms such as Hill-Climbing and Simulated Annealing to maximize global area coverage by analyzing over 6,000 orbital scenarios.
- Integrated TLEs (Two-Line Element sets) from Celestrak's NORAD database using PyOrbital to model real-time satellite trajectories which enhanced coverage area by 3% using geospatial data analysis to improve connectivity to remote regions.

Image Processing Application — Sep 2024 - Dec 2024
- Implemented a comprehensive Java image processing application with MVC design, featuring 15+ algorithms that include blurring, sharpening, histogram visualization, color correction, and Floyd-Steinberg dithering.
- The application was designed to support multiple interface modes (GUI and script-based) with consistent behavior, enabling features such as split view previews and visualization of real-time histograms with 90% code re-usability between interfaces.
- Developed robust image transformation capabilities including Haar wavelet compression, RGB channel manipulation, and adaptive levels adjustment, maintaining 95% test coverage across all components.

Publications

Proof-of-Trust-in-Expertise (PoTE): A Consensus Mechanism for Healthcare based Consortium Blockchains (10.2139/ssrn.4804243) — Jan 2024
Summary: Developed a novel blockchain consensus mechanism, Proof-of-Trust-in-Expertise (PoTE), for healthcare data management by incorporating the expertise of medical professionals.