AISHWARYA CHAND

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EDUCATION

University at Buffalo, New York   *Jan 2024 - May 2025*
Masters in Computer Science (Specialization in Artificial Intelligence)
Coursework: Machine Learning, Reinforcement Learning, Deep Learning, Computer Vision

Jamia Hamdard University   *July 2018 - June 2022*
BTech in Computer Science
Certifications: Microsoft Certified Azure Data engineer, Stanford Machine Learning

PROFESSIONAL EXPERIENCE

Human Behavior Modeling Lab @ **University at Buffalo**   *Jan 2025 – Ongoing*
Machine Learning Researcher
* Fine-tuned a Differential Transformer (JoyNMT) for real-time ASL translation, improving BLEU score by +5.5 on multimodal inputs (pose, hand, facial, audio-text) with <300 ms latency.
* Designed a Spark pipeline processing 5M+ video frames/day, generating signer metadata and powering dashboards for latency, input complexity, and retention analytics.
* Deployed models using Docker + FastAPI with version-controlled inference endpoints, supporting structured evaluation, performance monitoring, and rollback readiness ,partnered with other researchers, clinicians, and deaf participants and applied data science techniques to design inclusive ASL model behavior.

TATA Consultancy Services   *Oct 2022 - Jan 2024*
Data Scientist
* Built and deployed a production-grade triage chatbot using AWS Lex & Lambda, automating symptom intake and routing, which reduced average patient wait time by 45% and boosted satisfaction by 18%.
* Built Lifetime Value prediction pipelines using LSTM and Spark, enabling patient segmentation that led to a 12% uplift in re-engagement and optimized retention strategies.
* Created KPI-aligned dashboards in Tableau to monitor user behavior, dropout trends, and triage engagement, driving metrics-based iteration across cross-functional teams.

3 Pillar Global   *Dec 2021- July 2022*
Software Engineer Intern
* Optimized backend performance by refactoring SQL queries and implementing indexing strategies in Java, reducing data latency by 35%.
* Built and tested RESTful Java APIs to support real-time product usage analytics and dashboard responsiveness.

Predictiveye   *July 2019 – Feb 2020*
Machine Learning Intern
* Trained XGBoost models for CTR prediction, increasing ad targeting accuracy by 15% using behavioral user segmentation
* Led A/B test pipelines (uplift modeling, integration, validation), driving statistically significant gains in engagement

PROJECTS

RL-Powered Recommendation Engine (DDPG) *[Github]*
* Designed a Deep Deterministic Policy Gradient (DDPG)-based system to recommend movies via continuous-action learning, adapting to user preferences through dynamic feedback
* Engineered state-action representations using SVD-based embeddings and cosine similarity to select optimal movie vectors
* Achieved 0.66 mean reward per episode, outperforming static collaborative filtering by modeling long-term user engagement

InsightMate :LLM-Powered Feedback Summarizer for Product Roadmapping *[GitHub]*
* Built a high-throughput local LLM system (9.4 tokens/sec) to analyze 100K+ product reviews using RAG and semantic clustering
* Achieved 91% labeling precision across 25+ sentiment categories with PM-facing analytics dashboard

Two-Stage Visual Abductive Reasoning
* Developed a ViT + LLM-based architecture to infer latent scene dynamics and commonsense from images; improved abductive accuracy by 9.3%
* Integrated spatial priors and fine-tuned multimodal fusion for real-world visual reasoning tasks.

SKILLS

Programming languages : Python, R, SQL, C/ C++,Java

Machine Learning & Deep Learning : PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn, LangChain, GraphRAG, RLlib
Computer Vision & Robotics : OpenCV, SVD, NeRF (basic), SLAM (conceptual), DDPG, Pose Estimation
Data Engineering & Pipelines : PySpark, Spark, Pandas, FastAPI, Docker, REST APIs, MongoDB, MySQL, PL/SQL
Cloud & MLOps : AWS (Lex, Lambda, S3), Azure, GitHub Actions, Docker, Linux
Reinforcement Learning (DDPG, Q-Learning), RAG Systems, Agentic AI, NLP, LLM Fine-tuning, Transformers