AMIT MANJARLY

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SUMMARY

Machine Learning Engineer graduate student with 3.5 years of industry experience. Skilled in LLMs, Deep Learning, and NLP with hands-on experience in RAGs and Prompt Engineering. Knowledge in Python, C++ and Java and experience in deploying scalable solutions with PyTorch, TensorFlow, Docker and Kubernetes. Proficient in SQL and Data Science concepts along with ML algorithms.

SKILLS

Languages: Python, Java, C++, SQL
Frameworks & Libraries: PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas
AI/ML Techniques: Prompt Engineering, RAGs, LLMs, CNNs, RNNs, Reinforcement Learning, Bayesian Networks
Tools & Platforms: Git, Docker, Kubernetes, Apache Kafka, Jupyter, Google Colab
Databases: Hive, Impala, Oracle, Neo4j
Performance & Optimization: CUDA, Profiling, Convex Optimization, Algorithmic Efficiency
Web Development: JavaScript, HTML, CSS

EXPERIENCE

Accenture PLC Hyderabad, India
Data Engineering Management and Governance Analyst March 2021 – July 2024

- Achieved a **15% reduction** in processing time by optimizing and refining the **Python** scripts used for core algorithms.
- Analyzed the workflows using **SQL** and provided strategic improvements to reduce the data processing time by **33%**.
- Performed **data analysis** using **Tableau** and generated reports to effectively communicate work strategies.
- Debugged critical software issues using **qTest** and enhanced the system stability on international banking project.
- Co-ordinated with other teams via **JIRA** and **KANBAN** boards to consistently meet deliverable deadlines.
- Participated in **User Acceptance Testing (UAT)** to ensure client expectations were fulfilled in the deliverables.
- **Automated** data quality testing using **Python** and **SQL** improving and reducing testing time by **40%**.
- Managed the the databases on **Hive** and **Impala** and utilized **Toad for Oracle** for better query result extraction.

Terminal Trend Ahmedabad, India
Software Engineer - Intern January 2021 – February 2021

- Progressed from foundational to advanced level for front-end development resulting in better proficiency in **JavaScript**.
- Developed **front-end UI** games using HTML, CSS and JavaScript getting a better understanding of core concepts.
- Contributed to the deployment of a **live web application**, ensuring seamless client collaboration and integration.

PROJECTS

LLM Fine-Tuning for Enhanced Mathematical Reasoning (STaR) (Github) September 2025 - October 2025

- Developed fine-tuning strategies for the **meta-llama/Llama-3.2-3B-Instruct** LLM and benchmarked on the **GSM8K dataset** to enhance complex mathematical reasoning.
- Worked on creating a **Self-Taught Reasoner (STaR)** pipeline to automatically generate, verify, and refine training data by leveraging **prompt engineering** and creating a high quality rationale bootstrapped dataset.
- Implemented **4-bit quantization (BitsAndBytesConfig)** with **bfloat16 precision** to optimize model training performance and memory efficiency to fine-tune the **3B parameter model** on single GPU.
- Benchmakred STaR-SFT model against **Zero-Shot-CoT (47.56% accuracy)** and **Vanilla-SFT (44.00% accuracy)** baselines and analyzed the reasoning improvement and training complexity trade-off.

End-to-End Hybrid Movie Recommendation Engine (Github) May 2025 – June 2025

- Developed and optimized **SVD** and **TF-IDF** hybrid recommender which improved **Precision@10 by 16x** over baseline.
- Created a **performance tuning pipeline** that optimized latent factors, which balanced precision with overfitting.
- Resolved the **cold-start problem** for new users via content based suggestion engine which enhanced scalability.
- Processed raw user user ratings by utilizing **sparse user-item matrix** with the help of **Pandas** in model training.

Image Classification with CNNs and SVMs (Github) September 2024 - November 2024

- Developed a **custom CNN architecture** for image classification on CIFAR-10 dataset using **PyTorch**.
- Optimized model training performance using **Stochastic Gradient Decent (SGD)** and **ADAM** optimizers.
- Efficiently pre-processed the data, trained the mode and evaluated workflows by building end-to-end ML pipeline using **Scikit-learn**.
- Improved feature space efficiently by applying **Principal Component Analysis (PCA)** for dimensionality reduction.

EDUCATION

Arizona State University Tempe, Arizona, USA
Master of Science in Data Science, Analytics and Engineering August 2024 – May 2026

Gujarat Technological University Ahmedabad, India
Bachelor of Engineering in Computer Engineering August 2015 – June 2019