Ashwin Satish

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EDUCATION

Northeastern University   **Boston, MA**
Master's of Science, Data Science (GPA: 3.83)   Sept 2024 - Apr 2026
Machine Learning, Algorithms, Data Mining, NLP, MLOps

Christ University   **Bangalore, India**
Bachelor's of Science, Computer Science (GPA: 3.53)   June 2020 - May 2023

EXPERIENCE

Northeastern University - *Machine Learning Researcher*   **Jan 2025 - Present | Boston, MA**
- Boosted true positives from **2% to 77%** while **maintaining zero false positives** for early-stage Lyme cell detection via a 7-model CNN ensemble (TensorFlow).
- Built a pipeline for reconstruction & masking of **10,000+ cell images**, saving the biology team weeks of manual work.
- Improved accuracy by **13%** via augmentation & L2/dropout regularization, achieving production-ready performance.

Northeastern University - *Teaching Assistant (Foundations of Data Science)*   **Aug 2025 - Present | Boston, MA**
- Mentored **300+ students** in linear algebra & statistics for ML & Data Science via problem-solving sessions & **NumPy** demos.
- Conducted **4+ weekly** office hours clarifying topics like constraint optimization, low-rank approximation, & regression.

CarerAI - *Data Science Intern*   **Jul 2023 - May 2024 | Gurgaon, India**
- Prevented **2,000+ unnecessary procedures** for customers by uncovering **500+** surgery avoidance cases through KNN analysis of patient records against historical data.
- Enabled automated processing for **40%** of cases by improving classification accuracy **26.4%** via feature engineering.
- Improved KNN's accuracy by **20%** using DBSCAN clustering to remove record outliers, reducing false positives in surgery recommendations.

Christ Consulting - *Lead Developer*   **Jul 2022 - Apr 2023 | Bangalore, India**
- Led development of Python project system on **AWS**, migrating from paper to **100,000+ records** in **MySQL**, scaling operations without adding headcount.
- Improved project success rates by **20%** by building interactive dashboards that surfaced at-risk projects for early intervention.
- Optimized task completion rates by **24%** by engineering weighted user index to rank users on task & performance metrics.

SKILLS

Programming | Data: Python, SQL, R, Pandas, NumPy, PySpark, Scikit-learn, TensorFlow, PyTorch, Hugging Face, OpenCV
Visualization | Cloud: Git, Tableau, Matplotlib, Seaborn, Plotly, AWS, GCP, Azure, PostgreSQL, Snowflake, Docker
AI | Modeling: Transformers, BERT, LoRA, AutoML, T5, LangChain/LangGraph, Kubeflow, Ollama, PydanticAI, MLFlow

PROJECTS

[AI-Powered Pokémon Battle Strategy Engine](#)
- Built & dockerized hybrid AI engine integrating **Llama 3.2** with a **deterministic backend** for strategic analysis, ensuring **100% accuracy** on **game mechanics**.
- Engineered a RAG pipeline via ChromaDB & Sentence-Transformers, **indexing 20,000+ strategy docs** to ground LLM inference in semantic context.
- Developed a Recommender System ingesting **1M+ aggregated usage stats** via custom ETL pipeline for optimal team synergies.

[PantryPilot (2nd Place | MLOps Expo - Coursework)](#)
- Contributed to the fine tuning, evaluation & automated deployment (**GCP**) of **Llama 3.2 3B** for personalized inventory recipes, resulting in **50% reduction** in **dietary violations** via LoRA adaptation.
- Collaborated on DPO feedback using a Teacher model (**Llama 3 70B**) for preference labelling, VLM for receipt OCR & Veo 3.1 for instructional video.