Manikantan (Mani) Srinivasan

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EDUCATION

Northeastern University, Boston, MA — 09/2023 – Present
Khoury College of Computer Sciences — Expected Graduation: 2025
Candidate for a Master of Science in Artificial Intelligence
Related courses: Foundations of AI, Algorithms, Machine Learning, Data Mining, HCI for AI — GPA: 3.4

UPES, Dehradun, India
Bachelor of Technology in Computer Science and Engineering (Spz. Artificial Intelligence and Machine Learning) — 08/2019 – 05/2023
Related courses: Machine Learning, Neural Networks, OOP, Gen-AI, Software Engineering — GPA: 8.3

TECHNICAL SKILLS

Languages:	Python, C++, C, Java, Flutter, Cypher
Databases:	MySQL, Neo4j, NoSQL, ArangoDB, Redis Vector Store
Skills:	ML, Generative AI, RL, Unsupervised ML, LLMs, RAG
Libraries:	Pandas, PyTorch, TF, Django, Flask, Langchain-Framework.

WORK EXPERIENCE

AI Research Engineer — 09/2024 – Present
SignoFi, NC, USA (Co-op)
- Enabling RAG+LLM assistance for portfolio managers and QF- researchers achieving a 25% reduction time in manual data analysis.
- Deploying a trading platform into the application using REST API techniques and Alpaca.
- Developing RL based techniques for asset management of clients with $100,000+ capital.

Researcher - Distributed Computing & AI — 10/2022 – 08/2023
KEK, Japan (Remote)
- Built software tools for BELLE2 particle accelerator experiment at KEK, managing 10+ petabytes of data.
- Resolved over 20 major bugs and issues in the distributed grid system and contributed to the neural network-based analysis platform reducing inference time by 10%.
- Worked closely with physicists, computer scientists and industrial engineers to provide software-based solutions.

Software Engineering Intern – Knowledge Graphs — 06/2022 – 08/2022
Jio, India (Co-op)
- Developed APIs using gRPC, Python, and ArangoDB to integrate data from 7+ verticals of the company.
- Integrated machine learning techniques to derive insights from over 5 petabytes of data.
- Implemented over 40 API CRUD functions to enhance data management and integration processes.
- Presented 5+ research ideas on findings and methodologies and easier knowledge graph access.

PROJECTS

SYNTHETIC VISION: DCGAN vs VAE ON CIFAR-10 — 03/2024 – 04/2024
- Gen AI Project - comparative study of DCGAN vs VAE for novel image generation using 60,000 CIFAR images.
- Evaluated models based on metrics like IS and FID; tuned DCGAN to work on 28x28 low-resolution images.
- Generated images of objects belonging to 10 different classes using different latent space dimensions.

ANAKIN BREAKING BAD — 11/ 2023 – 12/2023
- Developed an interactive game based on Star Wars using RL and NLP.
- Implemented A*, BFS, Value Iteration, Sentiment analysis and text similarity metrics to add complexity.
- Designed the game agent to take actions based on negative (-1) or positive (+1) statements using language modelling.
- Collaborated with a team of 4, leading and guiding the group to achieve project goals.

VOLUNTEERING & ACHIEVEMENTS

- Conducted edge case testing on barcode reading tools to assist farmers and veterinary doctors in monitoring sick cattle. The project was presented to state government officials of Uttarakhand, India.
- Researched at the BELLE2 experiment, which includes 100+ institutions across 27 countries and attended important meetings.
- Authored Gen AI and related articles on medium: https://medium.com/@manikantan.srinivasan2001