

# Aman Gupta

New York, NY | 551-3594631 | [amangupta52001@gmail.com](mailto:amangupta52001@gmail.com) | [LinkedIn](#) | [GitHub](#)

## EDUCATION

### Stevens Institute of Technology

Hoboken, NJ

*Master of Science in Machine Learning -GPA: 3.80/4.0*

*Dec 2024*

- **Graduate Teaching Assistant** for Machine Learning

### Kurukshetra University

Kurukshetra, India

*Bachelor of Technology in Computer Science*

*May 2022*

## CERTIFICATIONS

**AWS Certified Data Engineering Associate** – [Credentials](#)

Dec 2024

**Microsoft Certified AI Engineer Associate** – [Credentials](#)

Oct 2024

## EXPERIENCE

### Machine Learning Engineer

Sep 2024 – Present

*Cantonica*

*New York, NY*

- Designed and deployed **AI agents** for **task automation**, leveraging **LangChain**, **AutoGen**, and **CrewAI** to generate **daily summaries**, automate **performance reviews**, and **optimize workflows**.
- Orchestrated **multi-agent systems** to streamline **task dependencies** and **resource allocation**, improving **team productivity** by **20%** through intelligent use of **employee skills** and **KPIs**.
- Implemented **GraphRAG** models to enhance **task planning accuracy** by **40%**, mapping **task relationships** as **graphs** and enabling **real-time updates** to managers.
- Integrated **data pipelines** across **Slack**, **Google Docs**, and **GitHub Projects**, centralizing documentation and reducing **manual project reporting time** by **35%**.

### Generative AI Research Assistant

Jun 2024 – Sep 2024

*Stevens Institute of Technology*

*Hoboken, NJ*

- Engineered and optimized a **Multi-Modal Variational Autoencoder (MMVAE)** for **cross-generation** and **joint-generation** tasks, achieving **95% reconstruction accuracy** on **MNIST-SVHN** datasets.
- Refined model architecture using **Mixture of Experts (MoE)** to fuse **latent spaces** across modalities, improving **cross-generation consistency** by **30%** compared to baseline approaches.
- Reduced **ELBO loss** by **20%** through fine-tuning **PyTorch pipelines**, leveraging **GPU-enabled training** and **Adam optimizer**, ensuring **efficient convergence** over **50 epochs**.
- Validated model performance with **quantitative metrics** and high-quality outputs, achieving a **10% reduction in error rate** for **latent space reconstructions** and establishing **research benchmarks**.

### Machine Learning Engineer

May 2020 - Sep 2022

*LRA Packaging Pvt Ltd*

*Faridabad, India*

- Spearheaded the design of **real-time data pipelines** using **AWS IoT Core**, **MQTT**, and **Raspberry Pi**, reducing **sensor data latency** by **30%**.
- Architected **anomaly detection systems** in **AWS SageMaker** leveraging the **Random Cut Forest (RCF)** algorithm, achieving **95% accuracy** and reducing **downtime** by **20%**.
- Devised **automated workflows** integrating **AWS Lambda**, **CloudWatch**, and **Amazon SNS**, improving **incident response times** by **50%** through **real-time alerting mechanisms**.
- Crafted **dynamic dashboards** in **Amazon QuickSight** to monitor **trends and metrics**, boosting **stakeholder decision-making efficiency** by **25%**.

## PROJECTS

**AI Interactive Learning Framework** ([GitHub](#)) | *Python, Fetch.AI, Claude API, OpenAI, NLP*

Dec 2024

- Conceptualized an AI-driven learning platform using Fetch.AI's uAgents, OpenAI APIs, and Claude, delivering adaptive, emotionally intelligent user assessments and skill-based learning paths.

**Decentralized Emergency Response System** ([GitHub](#)) | *Python, Flask, LangChain, Claude API*

Nov 2024

- Orchestrated an emergency response system utilizing Fetch.ai agents, LangChain, and React dashboards, improving response efficiency by 30% through task automation and NLP workflows.

## TECHNICAL SKILLS

**Programming:** Python, R, C++, SQL

**Concepts:** Machine Learning, Generative AI, Transformer Models, Natural Language Processing, Data Analysis, Data Engineering, Model Deployment, Optimization Techniques, CUDA, NVIDIA GPUs, MLOPs pipelines

**ML Frameworks:** TensorFlow, PyTorch, Adbrain, Smartass, and Tensor Processing Units (TPUs), Keras, Scikit-learn, Hugging Face, LangChain, OpenAI APIs

**Big Data:** Apache Spark, Hadoop, Dask, Airflow

**Cloud Services:** AWS (SageMaker, S3, EC2, Lambda), Azure (Azure ML, Cognitive Services, LUIS), GCP (Vertex AI, BigQuery), Kubernetes, Docker, CI/CD Pipelines, Databricks