Rishav Roy

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Education

New York University, Courant   Expected May 2025
Master of Science, Computer Science (GPA: 3.82 / 4.00)   *New York, NY*
- **Relevant Coursework:** Algorithms, OS, Big Data, ML, Computer Vision, Distributed Databases

National Institute of Technology, Trichy   July 2016 – June 2020
B.Tech in Computer Science and Engineering (GPA: 8.44 / 10.00)   *Tiruchirappalli, India*
- **Relevant Coursework:** Data Structures, Algorithms, Database systems, OS, ML, NLP
- **Position of Responsibility:** Web-dev Head – Spider R&D Club

Experience

Stealth Startup   Jan 2025 – Present
Software Engineer Intern   *New York, NY*
- Designed and developed system architecture for AI-based content analysis for 5 short-form content creators.

Morgan Stanley   Jan 2023 – Aug 2023
Technology Manager   *Bangalore, India*
- Overhauled and deployed a cloud-ready micro-service-oriented real-time trading system to replace the traditional monolith-styled trading system.
- Collaborated with interns to develop an email-parser to automate and improve line-item creation speeds on the trading system by 25%.

Morgan Stanley   Aug 2020 – Dec 2022
Senior — Technology Associate   *Bangalore, India*
- Spearheaded the development of Azure-cloud-hosted trade-bidding API service for external clients resulting in a 150% increase in quarterly trading activities.
- Managed a team of 4 TAP trainees to build a log tracking system improving outage resolution speeds by 20%.

Projects

ASL Interpreter | *PyTorch, NumPy, Computer Vision, LLM-Ops*
- Fine-tuned large vision language models (LLaVA-NeXT-Video, Video-LLava) on How2Sign dataset for translating continuous sign language (ASL) into English text. ⌗

Replicated Concurrency Control and Recovery Systems | *Python, Database Design*
- Built a distributed database system that implements serializable snapshot isolation and available copies algorithms for concurrent transaction processing and site failure recovery mechanisms.
- Simulated a complex environment with 20 variables distributed over 10 sites, ensuring data integrity and system robustness under failure conditions. ⌗

Image-Finder | *React.Js, Next.Js, Java, Spring Boot, PostgreSQL, GraphQL, Docker*
- Conceptualized a multi-threaded web crawler that extracts all the images from a given website.
- Developed a Full-stack web application with caching facility reducing the average extraction time to 500 ms - ⌗

Audio2Image | *Python, PyTorch, HuggingFace*
- Build an ML pipeline to render an image from a 10-sec audio clip as part of a 4-membered team
- Utilized audio embedders (HuBERT) and text embedders (CLIP) as a wrapper over the Stable Diffusion model - ⌗

LENR.ai | *Python, Llama2, MistralAI, HuggingFace, ChromaDB, Flask, Angular*
- Utilized the RAG architecture using similarity searches on vector databases and prompt engineering on LLMs to develop a Recommendation System.
- Developed a full-stack web app PoC for the LENR research domain for the Predictive Analytics course at NYU - ⌗

Technical Skills

Languages: Bash, C/C++, Java, JavaScript, Python, Scala, TypeScript
Technologies: Angular, Apache Hadoop/Spark, AWS, Docker, Flask, Git, GraphQL, LangChain, LLMs, MongoDB, MySQL, NextJS, NodeJs, NumPy, PostgreSQL, PyTorch, React, Scikit-learn, Serverless Computing, Spring Boot, SQL, TailwindCSS