Manisha Goyal

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Education

New York University — New York, NY
Masters in Computer Science — Sep 2023 – May 2025 (expected)
- Courant Institute of Mathematical Sciences, Major in Artificial Intelligence, GPA: 3.97/4.0
- *Coursework*: Algorithms, Data Science, Natural Language Processing, Computer Vision, GPUs, Cloud and Machine Learning, DevOps

Singapore Management University — Singapore
Bachelor of Science in Information Systems Management — Aug 2014 – Apr 2018
- Double Major in Information Systems and Analytics (Advanced Technology)

Skills

Languages and Web Technologies: Java, Scala, Python, C, C++, CUDA, Solidity, SQL, Node.js, JavaScript, HTML, CSS
Frameworks: SpringBoot, Flask, React, TailwindCSS, JUnit, Pytest, Behave
Databases and Cloud: MySQL, PostgreSQL, MongoDB, Pinecone, OpenShift, Kubernetes, GCP, AWS
Machine Learning: PyTorch, Scikit-Learn, NumPy, Pandas, Matplotlib, OpenCV, LangChain, OpenAI GPT
Dev Tools and Methodologies: Git, GitHub, Docker, Jenkins, Postman, Jira, Zenhub, Agile/Scrum, DevOps
Others: Linux, REST API, OpenAPI, Swagger, Apache (Kafka, Hadoop, Spark), Tableau, Quorum, Ethereum, Web3.js

Experience

J.P. Morgan Chase — Singapore
Software Engineer (Associate), Kinexys (formerly Onyx) by J.P. Morgan — May 2020 – June 2023
- Developed decentralized application from the ground up *(Java, SQL, Web3.js, REST APIs, Docker, Kubernetes)* for JPM Coin System, a first-of-its-kind permissioned blockchain network that allows near-instant cross-border liquidity funding for institutional clients
- Led development and live deployment of blockchain ledger *(Smart Contracts, Solidity)* for Partior, an inter-bank blockchain network enabling multi-currency atomic settlements across major global banks in under 2 minutes
- Built proof-of-concept *(Solidity Diamond Standard)* to make Partior's blockchain ledger scalable and upgradable, contributing to successful transaction of tokenized Singapore government securities on the Polygon network

J.P. Morgan Chase — Singapore
Software Engineer (Analyst), Cybersecurity — Aug 2018 – Apr 2020
- Developed Cybersecurity Data Lake *(Apache Hadoop, Apache Kafka, Java, SQL, Linux, Docker)*, enhancing the firm's real-time cybersecurity incident monitoring capabilities by 75% and reducing incident response times by 30%
- Led deployment and production management of JPMC Cybersecurity Log Collector (*Java, Linux, Shell Scripting, Jenkins*), enabling real-time processing of syslog messages across 200+ global systems with 99.9% uptime, enhancing security for critical operations

J.P. Morgan Chase — Singapore
Software Engineering Intern, Cybersecurity — May 2017 – July 2017
- Built an automation tool *(Java, SpringBoot, SQL, Jenkins)* to parse and analyze static security scanning results, boosting efficiency in the firm's application security assessments by over 90% and reducing the evaluation times by 80%

Fujitsu-SMU Urban Computing and Engineering Lab — Singapore
Software Engineering Intern — Apr 2016 – Jul 2016
- Researched data-driven optimization techniques for maritime-port-urban logistics, and developed an e-Market Platform application *(Java, SpringBoot, SQL)* that reduced operational costs by 20% and increased logistical efficiency by 40%

Projects

ASL Interpretation using Large Vision and Langauge Model (LVLM) | *PyTorch, LLaVA-NeXT-Video, QLoRA* — Dec 2024
- Fine-tuned LLaVA-NeXT-Video on the How2Sign dataset to translate American Sign Language (ASL) gestures into English text

Retrieval-Augmented Generation (RAG) Chatbot for Research Papers | *Pinecone, LangChain, Langtrace, Kubernetes* — Nov 2024
- Built RAG chatbot for querying research papers, enabling efficient retrieval and generation of context-aware insights to enhance accessibility; integrated LLM metrics tracking to optimize performance and cost

GPU Power Optimization using Frequency Scaling | *Accel-Sim, AccelWattch, CUDA* — Oct 2024
- Optimized GPU energy efficiency using clock frequency scaling strategies, leveraging the Accel-Sim framework to simulate and analyze workload behaviors across NVIDIA architectures; achieved insights into energy-aware configurations for diverse computational tasks

House Value Prediction | *Python, Scikit-learn, XGBoost, Pandas, Matplotlib, SHAP analysis* — Mar 2024
- Developed machine learning model using XGBoost and other techniques to predict residential property prices in Ames, Iowa, achieving an R^2 score of 0.918; provided actionable insights for real estate stakeholders to optimize investment strategies

Unix Shell Implementation | *C, Unix, Shell Scripting, Operating Systems* — Feb 2024
- Designed and developed simplified Unix shell in C, with basic command execution, I/O redirection, and inter-process communication