# Maneesh Reddy Palem **Gonegary**

San Francisco, CA Resident | Open to relocating anywhere in the US | Graduating May 2025 | Authorized to work anywhere in the US |
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## EDUCATION

**State University of New York at Stony Brook**, Master of Sciences in Computer Science — Aug 23 - May 25
**Coursework:** Distributed Systems, Generative AI, Data Science, Machine Learning
**BITS Pilani**, Bachelor of Engineering in Computer Science — Aug 18 - May 22

## EXPERIENCE

**Highlight Health,** Software Engineering Intern | **Newark, NJ** | Health Insurance | **Java, Python, Azure, MapForce, Golang, Elasticsearch, Kibana, Logstash, MySQL, FastAPI, Spark, Postman, Git, PyCharm** — May 2024 - Present

- Optimized data processing and OCR techniques for parsing and validating healthcare claims, iteratively enhancing accuracy and efficiency significantly.
- Developed and deployed Python REST APIs on Azure that handle incoming EDI files, validate, parse and store mapped data in a Postgres database. Extensively researched EDI, X12 and HIPAA documentation.
- Developed object-oriented Java applications to automate MapForce EDI mappings - reduced mapping time by **80%**.
- Implemented comprehensive API testing suite using PyTest, achieving **95%** test coverage across REST endpoints and reducing bug detection time significantly.
- Managed and maintained MySQL databases by writing and optimizing SQL scripts and queries, improving data integrity and system performance.
- Engineered dashboards for data analytics with Elasticsearch and Kibana on large-scale datasets ingested through custom built Logstash pipelines.
- Streamlined the team's development workflow by integrating services into a standard Software Development Life Cycle (SDLC) workflow with pull requests, branching and version control using Azure DevOps.
- Wrote scripts for scraping hundreds of hospital price transparency files with Python, Selenium and BeautifulSoup.
- Secured co-op and return offers.

**North Carolina Institute for Climate Sciences,** AI Engineer | Climate Research | **Python, AWS, LLMs, LangChain, Jupyter** — Jul 2024 - Aug 2024

- Implemented agentic RAG solutions for climate datasets and GIS data incorporating adaptive and corrective techniques for Self-RAG, effecting an improvement over vanilla RAG accuracy by **21%**.

**Stony Brook University,** Research Assistant | **Stony Brook, NY** | Medical Research | **Python, LLMs, NLP, PyTorch, PostgreSQL** — Jan 2024 - Present

- Leveraged BERT models, LLMs and SQL to extract patient-specific attribute information to aid doctors at the Stony Brook hospital.
- Built a Decision tree based machine learning model that recommended medical interventions based on patient state. Leveraged LLMs for natural language interpretation and reasoning over model output.
- Developed a preliminary approach for leveraging foundation models for working with fetal heart rate data.

**Rupifi,** Software Engineer | B2B Financial Services | **Go, Python, Redis, RabbitMQ, Postgres, SQL, React, AWS, HTML/CSS, Angular, Selenium** — Jul 2022 - Aug 2023

- Primarily engaged with iterative development, improvement, testing and maintenance of >100 internal and external facing APIs. Integrated 3+ payment gateways into our checkout service.
- Developed our own webhook mechanism for sending, receiving and managing communications over text, WhatsApp and e-mail - improved anchor engagement by **32%**. Developed multiple caching systems with Redis. Implemented logging mechanisms for team services - significantly improving debugging delays across the board. Spearheaded integration of AWS S3 for file management.
- Optimized front-end performance by implementing code-splitting, lazy loading, and other best practices in React, improving load times and reducing bundle sizes by 30%.
- Developed and integrated cross-team microservices for messaging/whatsapp, link shortener, email services among others. Wrote SQL scripts, managed databases and actively ran SQL queries in accordance with team requirements.

**Flipkart,** Software Intern | e-Commerce | **Java, Python, Docker, Kubernetes, Micronaut, Helm, Jenkins, Istio, IntelliJ IDEA, Eclipse** — Jul 2021 - Dec 2021

- Containerized and deployed team services onto Kubernetes clusters. Engineered automated Jenkins pipelines for CI/CD workflows. Wrote Python Locust scripts for performance metrics generation.
- Leveraged NCF, RNNs and autoencoders to build a modified product recommendation model. Developed and optimized .NET and C# applications.

**CT Software Solutions,** Software Intern | IT Consulting | **Kotlin, TensorFlow, Python, Java** — May 2020 - July 2020

- Created a Multi-Layer Perceptron model for gym recommendations based on user workout goals, workout style, location and possible peer compatibility.
- Developed a fitness tracking Android app that incorporated a personalized calorie counter, step counter and a comprehensive activity tracker, improving upon the accuracy of Google's pre-existing step counter by **62%**

## PROJECTS

**Predicting Flight Delays** | *Python, Selenium, BeautifulSoup, JavaScript, PyTorch, R*

- Performed data cleaning, analysis and visualization on flight data scraped from the web with Selenium. Developed a predictive model which returned an accuracy of **81%**.

**Health and Lifestyle Advisory System** | *Kotlin, LangChain, ChatGPT*

- Built an Android application that leveraged agentic RAGs and prompt engineering for developing a notification management and uber-personalized Q/A system solution.

**NES Emulator** | *Rust*

- Programmed an emulator for the NES gaming console in Rust.

**Natural Language Querying for APIs** | *Python, GPT, SQL, Kafka, Streamlit, Airflow, Spark*

- Built a Streamlit application that let users perform natural language querying on any API. API data ingested, processed and stored in a Postgres database. LangChain's SQL agent used for natural language querying.

**Virtual clothing try-on extension** | *Python, JavaScript, Claude*

- Built a Chrome web extension that lets users try clothes on virtually.

**Ocular Disease Recognition** | *Python, Keras*

- Trained a ResNet CNN model for eye disease recognition which returned an accuracy of **89%**.

**Supply Chain Tracking** | *Python, Flask, JavaScript, jQuery*

- Applied blockchain concepts like Proof-of-work mining, hashing, consensus mechanism and cryptographic keys to model a verifiably secure supply chain.

## SKILLS

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| Frameworks | React, Node.js, Flask, Spring Boot, Gin, Agile, Angular, Django, Mockito, NoSQL, Bootstrap, FastAPI |
| Libraries | jUnit, hibernate, OpenCV, scikit-learn, pandas, NumPy, Matplotlib, TLS, pytorch, sklearn, selenium, seaborn |
| Developer Tools | Git, Docker, Google Cloud Platform, AWS, Bash, Linux, PowerBI, PostgreSQL, MongoDB, Kafka, Snowflake, Sagemaker, Tableau, Tomcat, Maven, Jenkins, Nexus, VSCode, IntelliJ, GitHub Actions, Azure, GCP, Kibana, Logstash, Elasticsearch, Postman, Jupyter, SwarmZero, CrewAI |
| Skills/Courses | Machine Learning, Artificial Intelligence, Computer Vision, Data Science, Data Analysis, Data Structures, Object-Oriented Programming, organization, RESTful APIs, Computer Networks, Time Series Forecasting, Distributed Systems |
| Soft Skills | Time Management, Problem-solving, Documentation, Communication and Presentation, Leadership, Collaboration, Adaptability. |

## EXTRACURRICULARS

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| Quizzing | I actively participate in quizzing societies, and have hosted 10+ quizzes for hundreds of participants in multiple cities, and have been part of multiple televised competitions. |
| Reading | I love reading - my favourite writers are Cormac McCarthy and Clarice Lispector. |