

# MANIDEEPIKA REDDY MYAKA | SOFTWARE ENGINEER

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## SUMMARY

**Software Engineer** with strong expertise in **AI, ML, and Cloud**, combining academic research and industry experience to build **scalable, high-performance** systems. Demonstrates proven success in **debugging, testing, and deploying** intelligent software solutions using modern frameworks and **cloud technologies**.

## WORK EXPERIENCE

**Research Assistant | North Carolina State University | Raleigh, NC** **July 2025 - Present**

- Improved debugging accuracy through cross-framework analysis of fuzzing tools by identifying recurring failure trends.
- Enabled scalable, bug reproduction through a generator-mutator framework powered by LLM for testing automation.

**Teaching Assistant | North Carolina State University | Raleigh, NC** **January 2025 - April 2025**

- Set benchmark for student projects by developing a **Python** based defect prediction model that achieved 95% accuracy.
- Improved student performance by 20% through effective Moodle resource management and detailed assignment feedback.

**Graduate Research Assistant | North Carolina State University | Raleigh, NC** **April 2024 - August 2024**

- Built quantum algorithms in **Python** and **Qiskit** for Alzheimer's detection, aiming to reduce dementia care costs by 30%.
- Optimized code to reduce circuit depth by 25% in noisy environments and deployed simulations on **HPC** systems.

**Programmer Analyst | Cognizant | Hyderabad, India** **June 2022 - June 2023**

- Automated UI testing with **Java-Selenium** and **TestNG**, uncovering 200+ bugs and reducing post-release issues by 80%.
- Improved backend reliability and ensured data integrity through **SQL** and **API validation** using **Postman** and **REST**.
- Collaborated with **Agile** teams, maintained **documentation and automation scripts**, accelerating defect resolution by 40%.

**Quality Assurance Engineer Intern | Cognizant | Hyderabad, India** **January 2022 - May 2022**

- Automated testing for web applications like Trutime and Udemy using **Selenium**, boosting testing speed by 80%.

## PROJECT EXPERIENCE

**Ellipsis: AI-Powered Podcast Generation Tool | React, Redis, llama.cpp, Tailwind CSS** **May 2025 - June 2025**

- Developed **LLM** based podcast generator from prompt to audio using **multi-speaker TTS**, reducing manual scripting time.
- Designed a **multi-agent** content evaluation system and integrated **Redis Pub/Sub** and **SSE** to stream live script generation

**Brain Tumor Detection Using Convolutional Neural Networks | Keras, EDA, Matplotlib** **March 2025 - April 2025**

- Built a CNN model using **TensorFlow/Keras** to classify brain MRI scans for tumor detection, achieving 97% accuracy.
- Enhanced model generalization by 20% through **EDA, data augmentation, and tuning** across varied image inputs.

**Scalable Flight Reservation System | Kubernetes, Docker, Locust, Minikube, HPA** **October 2023 - November 2023**

- Deployed a flight booking system with **Kubernetes** and **Docker**, ensuring high availability and resilience under peak traffic
- Optimized scalability with **HPA** and validated performance with **Locust**, improving responsiveness during load spikes.

## EDUCATION

**North Carolina State University | Master of Science | Computer Science** **May 2025**

**Chaitanya Bharathi Institute of Technology | Bachelor of Engineering | Electrical and Electronics Engineering** **June 2022**

## CORE SKILLS

**Languages :** Python, Java, JavaScript, SQL, Ruby, HTML/CSS, JSON, Bash

**Frameworks & Tools:** React, Ruby on Rails, Selenium, Jenkins, Maven, Git, Cucumber, BDD, TDD, Wireshark

**AI/ML & Cloud:** TensorFlow, Keras, PyTorch, Scikit-learn, Pandas, Numpy, Matplotlib, Qiskit, MCP, Docker, GCP

**Databases & Testing:** MySQL, PostgreSQL, MongoDB, REST API, SOAP UI, Postman, Pytest, TestNG, JUnit

## ACCOMPLISHMENTS

- Google Cloud Certified [Associate Cloud Engineer](#)
- Awarded **Scholarship (2018-2022 & 2023-2025)** by the **Government of Telangana**, based on the academic merit.
- Contributed to **BugsInDLLs** by creating environments to reproduce version-dependent bugs in DNN libraries.