MANIDEEPIKA REDDY MYAKA | SOFTWARE ENGINEER

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SUMMARY

Software Engineer with experience in **full-stack development**, **AI/ML systems**, and **cloud-native architectures**. Skilled in **Python**, **React**, **Docker**, and **GCP** with a track record of building **scalable** systems, **optimizing** workflows, and improving debugging and **testing efficiency**.

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%.
- Ensured data integrity by writing **SQL** queries and improved backend reliability by **API testing** using **Postman** and **REST**.
- Collaborated with Agile teams via **Jira**, accelerating defect resolution by 40% and enhancing sprint delivery.
- Maintained comprehensive test documentation and automation scripts, cutting manual testing time by 20 hours per month.

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

- 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.