Shiva Karthik Rallabandi

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EDUCATION

Central Michigan University, Mount Pleasant, Michigan, USA **Aug 2024 – Dec 2025**
Master of Science in Information Systems

Keshav Memorial Institute of Technology, Hyderabad, India **Aug 2019 – May 2023**
Bachelor of Technology in Information Technology

TECHNICAL SKILLS

Programming Languages: Python, Go, TypeScript, C#, Java
Full Stack Development: Node.js, Express.js, Angular, React.js, Flask, FastAPI, Django
Databases and Big Data: MySQL, PostgreSQL, MongoDB, Firebase, Apache Kafka, Redis
Cloud and DevOps: AWS (EC2, S3, Lambda), Azure, Docker, Kubernetes, Terraform, Jenkins
Software Development Tools: Git, GitHub, Visual Studio, SSMS, Postman, JWT, Unix, Linux

EXPERIENCE

Software Development Engineer 1 | **Ivanti, Bengaluru, India** **Jul 2023 – Jul 2024**

- Developed and optimized **ITSM service management libraries** using **C#, .NET**, and **Azure Functions**, refactoring **microservices architecture** to improve **API scalability by 40%** and reduce system crashes by **25%**.
- Diagnosed and resolved **critical system bugs** using **Visual Studio debugging tools** and **Postman API testing**, enhancing system stability and reducing **incident reports by 30%**.
- Engineered and deployed the **Trusted Agent Feature**, implementing **SignalR** for real-time data synchronization and **JWT authentication** for secure access control, reducing unauthorized access attempts by **35%**.
- Automated **infrastructure provisioning and CI/CD workflows** using **Terraform and Azure DevOps**, enabling rapid deployment of **system testing environments** and cutting **deployment setup time by 50%**.
- Conducted **comprehensive design and code reviews**, optimizing **database queries in PostgreSQL and Redis**, improving query response times by **45%** through advanced indexing and caching strategies.

Software Development Engineer Intern | **Ivanti, Bengaluru, India** **Jan 2023 – July 2023**

- Developed an **internal cost-saving tool** using **C#, .NET**, and **Azure Functions**, optimizing cloud resource allocation through **predictive workload analysis**, reducing **infrastructure costs by 25%**.
- Implemented and debugged **integration and system tests** across **Server Management Libraries**, utilizing **JUnit and Postman API testing**, achieving **99.5% test reliability**.
- Enhanced **API performance and data flow** in **web-based applications**, refactoring **.NET Core microservices** with **asynchronous processing and optimized caching**, reducing **API latency by 40%**.
- Strengthened **application security** by implementing **JWT authentication** and **role-based access control (RBAC)**, reducing **security vulnerabilities by 20%**.
- Collaborated with **cross-functional teams in an Agile environment**, optimizing database transactions in **PostgreSQL and Redis**, reducing query execution times and enhancing system performance.

ACADEMIC PROJECTS

Azure Utility Tool | *DotNet, C#, Azure* **Mar 2023 - Jun 2023**

- Designed and deployed a scalable cloud monitoring tool using **Azure APIs** and **Terraform**, enabling automated cost tracking, improving resource allocation, and reducing cloud expenses by 20%.
- Automated cloud infrastructure provisioning with **Terraform scripting**, optimizing resource utilization, increasing deployment efficiency by 30%, and minimizing manual interventions in infrastructure management.

Story Books | *React.js, Node.js, MongoDB* **Jan 2023 - Mar 2023**

- Engineered a full-stack **MERN web application** with active **CRUD operations**, integrating **OAuth2**-based secure authentication, enhancing data integrity, and strengthening user access controls.
- Implemented Refined queries in **MongoDB**, reducing query latency, improving response time by 25%, and enabling seamless scalability for handling high user traffic efficiently.

Parkinson's Disease Detection | *Python, Streamlit, Machine Learning* **Feb 2022 - Apr 2022**

- Programmed a machine learning web app using **Python** and **Streamlit**, achieving 92% model accuracy by analyzing medical data, refining model hyperparameters, and improving prediction reliability.
- Preprocessed and analyzed 5,000+ patient records, extracting crucial features, fine-tuning classification models, and improving predictive efficiency by 15% with advanced data preprocessing techniques.