NIKILESH MADALA

✉ nikileshm@vt.edu | 📞+1 202-747-8271 | 🔗 Nikilesh Madala | 🔗Nikilesh54 | 🌐 Portfolio

EDUCATION:

Virginia Tech (Masters in computer science)   **Aug 2023 - May 2025**
Related Coursework: Web Development, Cloud Computing, Information Security
Anna University (Bachelor of Engineering in Computer Science)   **Aug 2018 - Jun 2022**
Related Coursework: Data Structures, Object Oriented Programming, Database Management Systems

TECHNICAL SKILLS:

- **Expertise Areas:** Full-stack Development, Micro-services, Design Patterns, Cloud Architecture & Solutions
- **Languages:** Python (Insurance APIs at Cognizant, NumPy recommendation engine in UniNav), Java (Enterprise applications), JavaScript/TypeScript (React interfaces at Cognizant, React.js with WebSockets in UniNav), SQL, Shell
- **Databases:** MySQL, SQL Server, MongoDB, PostgreSQL, Oracle, NoSQL, GraphQL
- **Frameworks/Web Technologies:** React, Node.js, jQuery, Bootstrap, Vue.js, Rest APIs, Spring, Apache, Flask, Tailwind CSS
- **Technologies:** AWS, Git, Bitbucket, Postman, Docker, Kubernetes, Jira, Jenkins, VMware, Ansible, Terraform, Maven, Eclipse, Atlassian Suite

EXPERIENCE:

Software Engineer at *Cognizant*   **Nov 2022 - Jul 2023**

- Created and maintained robust APIs using Java to manage insurance portfolios, enhancing data retrieval efficiency by 30% and reducing error rates by 20%.
- Implemented cross-functional agile methodologies across 15+ developers for collaborative and risk management, throughout the software development life cycle.
- Modeled and improved user-friendly front-end interfaces with React functional components, creating 6 reusable components that reduced development time, addressing customer needs and business objectives.
- Built and optimized serverless backend solutions using AWS Lambda, integrating with AWS VPCs to ensure secure and scalable handling of policy data, which led to a 25% reduction in operational costs.
- Developed AWS infrastructure initiatives including EMR solutions for policy management, achieving 99.9% system uptime while reducing sprint cycle time by 40% through automated deployments.

Software Development Intern *at Cognizant*   **Feb 2022 - Jun 2022**

- Designed customer profile using React and deployed corresponding APIs for profile updates, improving user experience and maintaining a 99.9% satisfaction rate with only 1 in 10,000 users experiencing issues.
- Performed troubleshooting on 20+ client-reported bugs, enhancing application reliability and customer service satisfaction while ensuring data integrity.
- Documented 12+ sprint processes and 8 development workflows in Confluence within the Atlassian Suite, facilitating seamless knowledge transfer across agile teams and reducing KT time.

PROJECTS:

UniNav - Campus Navigation Platform: 🔗   **Tech Stack:** React.js, Socket.io, Redis, AWS

- Engineered a scalable navigation system with TypeScript, implementing custom hooks for geolocation handling and integrating What3Words API with a self-developed geocoding wrapper, achieving <1m location accuracy.
- Architected a WebSocket-based real-time notification system using Socket.io with Redis pub/sub, implementing automatic reconnection and message queuing, resulting in 99.9% delivery rate and <100ms latency.
- Developed a recommendation engine using K-nearest neighbors clustering that processed user preference data from 8 distinct categories with ~15 attributes each.

Encrypted Image Transmission System: 🔗   **Tech Stack:** AES-256, TLS

- Implemented an enterprise-grade encryption system utilizing AES-256-GCM mode with PBKDF2 key derivation, incorporating secure key rotation and perfect forward secrecy principles.
- Engineered a comprehensive security layer with mutual TLS authentication, certificate pinning, and HSTS preloading, with 49 out of 50 transmissions verified as uncompromised.
- Composed a blockchain-based verification system using Merkle trees for tamper detection, applying automation techniques for real-time hash verification.

Full-Stack LMS Clone: 🔗   **Tech Stack:** Django, PostgreSQL, React, Node.js

- Designed a high-performance LMS using Django with custom middleware for caching and PostgreSQL optimization, implementing database partitioning and achieving 30ms average response time under 1000 CCU load.
- Architected Python-based quiz modules with Flask integration and built 10+ RESTful APIs with Node.js/Express, reducing data retrieval time and enhancing user engagement through robust frontend development.
- Utilized React Hooks for state management, implementing secure video uploads for 5 video formats (up to 1GB) and PDF generation while enabling effective troubleshooting and improving content accessibility.

CERTIFICATIONS: 🔗

- 3x AWS Certified including AWS Solutions Architect Associate & AWS Developer Associate.