

Vaishnavi Kottala

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EDUCATION

West Virginia State University
MS in Computer Science (GPA: 3.9)

Charleston, WV
Graduation Date: May 2026

WORK EXPERIENCE

Graduate Research Assistant

Institute, WV

Software Engineer

Aug 2024 – Present

- Developed scalable data-processing pipelines using **Python, Pandas, and NumPy** to analyze large-scale network datasets
- Applied **feature engineering and validation techniques** using **Scikit-learn**, improving model reliability and reducing false positives
- Automated preprocessing workflows using **Python scripting**, reducing experiment execution time by **40%**
- Supported peer-reviewed research by implementing **reproducible software workflows** and performance-focused system evaluations.

WVSU R & D

Charleston, WV

Software Engineer Intern

May 2025 – July 2025

- Built modular backend **microservices** using **Java, Spring Boot, and REST APIs**, improving service scalability and maintainability
- Developed secure API endpoints using **Spring Boot, Swagger, and Postman**, enhancing system integration and accessibility
- Containerized applications using **Docker** and supported **CI/CD pipelines**, improving deployment reliability and environment consistency
- Reduced response latency by implementing **caching strategies and query tuning** in **PostgreSQL**, improving application performance.

Motivity Labs

Hyderabad, India

Software Engineer

Nov 2022 – July 2024

- Developed a **Java-based full-stack event management platform** using **Spring Boot, Angular, and MySQL**, reducing manual operations by **30%**
- Designed and optimized **RESTful APIs** using **Spring Boot and Hibernate**, improving system performance and throughput by **25%**
- Implemented **asynchronous processing and database optimizations** using **Java and MySQL**, enhancing scalability under high-traffic workloads
- Improved code quality and application stability by implementing **JUnit-based unit testing** and structured debugging, reducing production issues
- Delivered **scalable backend modules** using **Java, Spring Boot, and Kafka**, enabling real-time dashboards and multi-site monitoring.

TECHNICAL SKILLS

- Languages:** Java, Python, JavaScript, TypeScript
- Backend:** Spring Boot, Spring MVC, Hibernate, JPA, Rest APIs, Microservices
- Frontend:** Angular, React, HTML, CSS, Bootstrap
- Databases:** MySQL, PostgreSQL, MongoDB
- Cloud & DevOps:** AWS, Docker, CI/CD, Maven, Git
- Messaging:** Kafka, RabbitMQ
- Testing & Tools:** Junit, Mockito, Postman, Swagger

PROJECTS

Event Management Automation Portal

Hyderabad, India

- Built a **Java full-stack application** using **Spring Boot, Angular, and MySQL** for real-time event monitoring, reducing manual effort by **30%**
- Integrated **Kafka** for high-throughput event streaming and improved system responsiveness
- Designed modular backend services to support scalability and fault tolerance

RESEARCH PUBLICATIONS

- Vaishnavi Kottala, et al.** “AI-Driven Detection of Cybersecurity Threats in 5G Networks.” *AIR-RES 2025 Conference*
- Vaishnavi Kottala, et al.** “Evaluating Random Forest, Decision Tree and Naive Bayes for Real Time DDoS Detection in 5G Environments.” *CSCI2025 Conference*
- Additional Publications:** Co-author of **16 peer-reviewed research papers** in cybersecurity, AI/ML, and distributed systems