

Venkata Sai Reddy Punnam

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Summary

Results-driven software engineer with 3+ years of professional experience in backend and full-stack development, and research expertise (1 years) in Backend AI-powered systems. Proven track record of delivering scalable, high-performance solutions and driving innovation through advanced technologies.

Education

Master of Science in Computer Science	May 2025
Clark University; Worcester, MA, USA	3.97
Bachelor of Technology in Electronics & Communication Engineering	Jun 2021
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology; Chennai, India	3.70

Technical Skills

Programming Languages: Java, Python, JavaScript, HTML, CSS

Frameworks & Tools: Spring Boot, MVC, Hibernate, Django, React js, Git, Jenkins, Selenium, Gradle, Junit, Cucumber

Databases & Cloud: Oracle, MySQL, PostgreSQL, MongoDB, Azure, AWS, Kubernetes

Core Competencies: Data Structures & Algorithms, OOPs, Test-Driven Development, Agile, Databases, Microservices

Experience

Clark University; Worcester, MA, USA	Dec 2023-Present
Research Assistant at Department of Computer Science	

- Developed an AI-powered recommendation system using OpenAI APIs, increasing user engagement by 60%
- Architected backend solutions that process and analyse large datasets, optimizing the interaction between AI-driven recommendations and research applications
- Optimized algorithms, enhancing recommendation accuracy by 30% through iterative refinements based on user behaviour and feedback loops
- Designed and implemented RESTful APIs, enabling seamless data exchange between AI models and research applications, supporting advanced Human-Computer Interaction (HCI) studies
- Ensured system scalability and high performance by incorporating load balancing, database indexing, and efficient data retrieval strategies, reducing latency and improving throughput

Capgemini; Hyderabad, Telangana, INDIA	Jun 2021-Jun 2023
Senior Software Engineer	

- Developed RESTful APIs and microservices using Java, Spring Boot and React.js, contributing to platform modernization by transforming monolithic applications with 40% improved response times
- Architected secure backend infrastructure using Spring Cloud Gateway and Spring Security, implementing OAuth authentication that reduced security incidents by 45%
- Built responsive React components for user centric portals, focusing on user experience and performance optimization through efficient state management
- Implemented comprehensive testing strategies using JUnit and Mockito, achieving 60% increase in test coverage and 20% reduction in production defects
- Contributed to DevOps practices by maintaining CI/CD pipelines with Jenkins and GitHub, supporting automated deployment and release cycles
- Participated in cloud migration from PCF to Kubernetes, gaining hands-on experience with container orchestration and cloud infrastructure
- Collaborated in Agile ceremonies and occasionally facilitated Scrum events, ensuring timely delivery of sprint commitments using Jira

- Received "Pat on Back" award for exceptional team support and contributions to project success

Capgemini; Hyderabad, Telangana, INDIA

Feb 2021-May 2021

Internship

- Designed and developed a credit card application using Spring Boot and React.js, implementing secure transaction processing and user authentication
- Implemented multi-threading for concurrent request handling and transaction management, improving application response time by 20%
- Built database architecture using PostgreSQL and Hibernate ORM, ensuring data integrity and efficient transaction processing
- Applied Test-Driven Development (TDD) methodology, creating comprehensive unit tests for critical transaction workflows
- Integrated transaction management in Spring Boot for handling sensitive credit card operations, ensuring ACID compliance and data consistency

Academic Projects

Online Testing Application; Clark University, Worcester, MA, USA

2024

A platform for instructors to conduct assessments and analyze student performance.

- Designed and implemented a scalable full-stack application using React.js and Spring Boot, ensuring seamless user experiences and high performance under heavy loads
- Developed and optimized RESTful APIs, enabling efficient communication between front-end and back-end systems
- Conducted robust automation testing using Selenium and Cucumber, delivering a bug-free application and ensuring high-quality performance
- Leveraged a Java, React, and MySQL stack to build a reliable, data-driven solution for real-time performance analysis

Skill Workshop Application; Clark University, Worcester, MA, USA

2023

A platform for people to share skills and learn from peers.

- Architected a scalable full-stack application integrating React.js on the front end and Spring Boot on the back end, delivering seamless integration and efficient performance
- Designed and implemented RESTful APIs to facilitate smooth communication between components, enhancing the overall user experience
- Ensured application quality by conducting unit testing, integration testing, and end-to-end automation testing using Selenium and Cucumber, resulting in a robust and reliable application
- Delivered a user-friendly platform by focusing on performance optimization and clean architecture

Emailing Application

2023

Service Application designed to bridge communication between a backend application and end users.

- Developed and deployed an email service API using Spring Boot, enabling seamless email communication for registered applications through secure SMTP protocols.
- Streamlined email integration for client applications, reducing development overhead by providing a robust, reusable API for email functionality.
- Enabled single, bulk email delivery and custom messaging support for both individual and multiple recipients.

Extracurricular & Achievements

- **Graduate Student Council (GSC) Member** – Represents the SPS department 2024
- **Pat on the Back Award** – Recognized for outstanding contributions and teamwork at **Capgemini** 2022