

VENKATESH MANNURU






Senior Software Engineer | Cloud, Microservices & Security

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Summary

Senior Full Stack Engineer with 5+ years of experience designing and building distributed, cloud-ready applications across finance, transportation, government, and academic research environments. Strong expertise in C#, ASP.NET Core, REST APIs, Angular UI, SQL Server, MongoDB, and microservice-based architectures. Experienced in secure system design, backend service development, containerized deployments, and code reviews. Published 21 research papers in cybersecurity, focused on attack detection, secure coding, and threat modelling.

Experience

- **TransCore** New Jersey, USA
Senior .NET Full Stack Engineer 06/2025 - Present
 - Designed and maintained .NET backend services using C#, ASP.NET Core, and REST APIs, integrating external APIs and payment services securely.
 - Implemented microservice-based components, improving service isolation by 35%.
 - Enhanced API performance with a 30% improvement in response time through optimization techniques.
 - Reduced production defects by 25% and incident resolution time by 40% through structured code reviews and improved monitoring.
 - Increased system availability by 20% by supporting high-availability and disaster recovery environments.
 - Collaborated closely with DevOps, infrastructure, and security teams.
- **Charleston Area Alliance** WV, USA
Full Stack Developer 01/2025 - 06/2025
 - Developed full-stack applications using ASP.NET Core, Angular/React, SQL Server, MongoDB.
 - Built and maintained REST APIs supporting internal and external integrations.
 - Improved application performance by approximately 25% through frontend and backend optimizations.
 - Reduced database load by approximately 30% by optimizing queries and stored procedures.
 - Designed background jobs and automation, reducing manual operations by approximately 40%.
 - Improved application security by approximately 20% through validation and access controls.
- **West Virginia State University** WV, USA
Graduate Research Assistant 08/2023 - 01/2025
 - Designed secure backend systems for cybersecurity research platforms.
 - Developed attack detection models for SQL Injection, Insider Threats, and APIs.
 - Improved threat detection accuracy by 20–35% using ML models (LSTM, SVM, Random Forest).
 - Built scalable data pipelines using Python, MongoDB, SQL, and REST APIs.
 - Reduced false positives by approximately 25% through feature tuning and validation.
 - Applied secure coding and threat modeling across research systems.
 - Published 21 research papers and 6 technical book chapters in IEEE and Springer journals.
- **Capgemini** Bangalore, India
Software Engineer 05/2021 - 08/2023
 - Developed and supported Banking and insurance .NET applications using, C#, ASP.NET MVC/Core, and Web API.
 - Improved application performance by approximately 20% through refactoring and query optimization.
 - Implemented API integrations between internal systems and external services.
 - Reduced production issues by approximately 30% through improved error handling and logging.
 - Participated in Agile/Scrum development and peer code reviews.
 - Supported production deployments and application maintenance.
- **Appstix Technologies Private Limited** Bangalore, India
Software Analyst 05/2019 - 05/2021
 - Developed web applications and backend services using ASP.NET, C#, and SQL Server.
 - Improved database performance by approximately 25% through optimized queries and procedures.
 - Assisted in legacy system modernization, improving maintainability by approximately 30%.
 - Reduced recurring issues by approximately 20% through code cleanup and validation.
 - Supported full SDLC from development to deployment.

Education



West Virginia State University

M.S. in Computer Science | GPA: 3.9 / 4.0

WV, United States

08/2023 - 05/2025

- Focused on secure software systems, web applications, and API security.
- Research and conference participation supported by Google and the U.S. Department of Energy.
- Presented research at IEEE and Springer conferences in the United States.
- Volunteered in NASA outreach programs, teaching high school students technology and cybersecurity basics.
- Performed vulnerability assessments for 10 nonprofits and small businesses across West Virginia, United States, via the Google Cybersecurity Clinic.

Skills

Server-Side:

C# · Java · C++ · .NET Core · ASP.NET Core · Web API · REST APIs · Entity Framework Core · LINQ · SQL Server · T-SQL · MongoDB · MySQL · Redis · Node.js · Python · Scikit-learn · TensorFlow

Client-Side: HTML5 · CSS3 · JavaScript (ES6+) · TypeScript · Angular · React · Bootstrap

Development & Operations: Docker · Kubernetes · Azure DevOps · CI/CD Pipelines · Git · Agile · Scrum · NUnit · xUnit · Jest

Projects

Cloud-Native Microservices & Cybersecurity Platform

United states

Tech: C#, ASP.NET Core, Web API, Docker, Kubernetes, SQL Server, MongoDB, Angular, Python

2024 - 2025

Designed **cloud-native microservices** using ASP.NET Core and REST APIs; deployed via Docker and Kubernetes.

- Implemented secure API communication, integrated cybersecurity threat-detection logic, and built Angular dashboards.
- Improved scalability and reliability by approximately 30% and reduced security risks by approximately 35%.
- Delivered \$120K+ in estimated annual cost savings through improved reliability and security.

Scalable Financial & Secure API Integration Platform

Sweden

Tech: C#, ASP.NET Core, Web API, SQL Server, Angular, OAuth2, JWT

2021 - 2022

Built **secure, scalable backend services** with ASP.NET Core; integrated external systems via OAuth2/JWT-secured APIs.

- Improved system efficiency by {27%} through optimized database access and enhanced API performance.
- Reduced API response time by approximately 25% and improved system stability by approximately 30%. Achieved \$80K+ in estimated annual cost savings through improved API performance and system stability.

Enterprise .NET Application & Database Platform

Bangalore

Tech: C#, ASP.NET MVC, Web API, SQL Server, JavaScript, HTML, CSS

2019 - 2020

Developed **enterprise .NET applications** and REST APIs with optimized SQL Server data models.

- Applied secure coding, validation, and error-handling standards.
- Improved query performance by approximately 20% and reduced recurring issues by approximately 25%.

Certifications

Microsoft Certified: Azure Developer Associate (AZ-204)Microsoft

— PMI, 2023

Certified Agile Practitioner (PMI-ACP) — Project Management Institute (PMI), 2023

Cybersecurity Professional Certificate — Google -2025

Cybersecurity Research & Publications(2023-2026)

— 21 Research Papers in Cybersecurity and Secure Systems

8 Research Book Chapters (Springer / IEEE)

Research areas include:

Secure Coding Practices SQL Injection & Insider Threat Detection Microservices Security Cloud & Critical Infrastructure Security

Student Performance — President's List – Academic Excellence West Virginia State University, 2024
Dean's List – Academic Performance West Virginia State University,2023