

## PROFILE

**Software Engineer** with **4+ years** of experience designing and scaling **high-performance backend** systems, distributed architectures, and real-time data pipelines. Proficient in **.NET (C#), Python, Java, and SQL/NoSQL** databases (**PostgreSQL, SQL Server, Redis, MongoDB**), with expertise in building cloud-native solutions **on AWS and Azure using Docker, Kubernetes, and Terraform**. Skilled in performance tuning, system optimization, and production incident management, with a proven ability to deliver resilient, scalable systems under high load.

## SKILLS

- **Programming Languages:** Python, Golang, C#, C++, Java, JavaScript, SQL
- **Frameworks & Libraries:** .NET Core, Entity Framework, React.js, Node.js, Django, Flask, TensorFlow.
- **Databases:** PostgreSQL, MySQL, SQL Server (MSSQL), MongoDB, Cassandra, Redis
- **Cloud & DevOps:** AWS, Azure, Docker, Kubernetes, Terraform, Snowflake
- **Messaging & Data Systems:** Kafka, Elasticsearch, gRPC, Debezium
- **Tools & Practices:** Git, Jenkins, CI/CD pipelines, Agile methodologies, XUnit

## WORK EXPERIENCE

### Software Engineer

06/23 - Present

CentrAlert, Charlotte, NC

- **Designed and scaled a distributed backend system for an emergency communications platform serving 100,000+ users, using .NET (C# 9.0+), Python, and SQL Server; architected REST and gRPC APIs, reducing end-to-end latency by 40% and enabling seamless third-party integrations.**
- **Optimized multithreaded backend services** through advanced task scheduling, thread pooling, and concurrency tuning in .NET, increasing system throughput by **30%** and reducing peak-time processing latency by **25%**.
- **Collaborated with the engineering team to lead architecture sessions and reviews, ensuring the quality, usability, and performance of the solutions.**
- **Engineered a real-time, low-latency search capability** leveraging **Elasticsearch**, **Kafka**, and **Debezium**, achieving sub-second data indexing and rapid retrieval of critical alerts under high-load production conditions.

### Software Development Engineer

07/19 - 07/21

Tata Consultancy Services, Hyderabad, India

- **Engineered and optimized high-performance PostgreSQL and SQL Server databases by tuning complex queries, implementing B-Tree and Hash indexes, and applying table partitioning, reducing query latency by 40% and boosting system scalability by 30% under production load.**
- **Automated database cluster provisioning, version upgrades, and seamless migrations using Python, Ansible, Terraform, and Docker, integrating with Jenkins CI/CD pipelines to cut deployment times by 50% and ensure zero-downtime releases across cloud environments.**
- **Mentored junior engineers and contributed to the growth and development of the engineering community, sharing best practices and improving processes within and across teams.**
- **Designed and deployed distributed database architectures (PostgreSQL, Redis) incorporating replication, sharding, and fault-tolerant configurations, achieving 99.99% uptime and a 3x improvement in high-concurrency transaction throughput.**

## INTERNSHIPS

### Software Engineering Intern

05/22 - 08/22

CAMP Systems International, Merrimack, NH

- **Designed and implemented a unified Multi-Factor Authentication (MFA) system using Identity Server and OAuth 2.0 for the CAMP Engine Maintenance suite, reducing client authentication issues by 40% and strengthening application security layers.**
- **Optimized application-to-database mapping with Entity Framework (C#/.NET), integrated PostgreSQL for scalable data management, and leveraged AWS S3 for object storage, improving horizontal scalability to efficiently handle increased user loads.**
- **Developed and automated unit testing suites using XUnit in C#, contributing to a 20% reduction in critical production issues and enhancing deployment confidence.**

### Peer Tutor, Data Science

10/21 - 01/22

University of Massachusetts at Lowell, MA

- **Tutored graduate students in Data Science and Machine Learning concepts using Python, R, Scikit-Learn, and TensorFlow, designing tailored learning materials and contributing to academic success for a cohort of 30+ students.**

## EDUCATION

### Master of Science in Computer Science

08/21 - 05/23

University of Massachusetts at Lowell, MA

### Bachelor of Technology in Electronics and Communications Engineering.

07/15-05/19

