

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.

- Designed and scaled a distributed backend system for an emergency communications platform serving 100,000+ users, leveraging Apache Spark, Docker, and Kubernetes, reducing end-to-end latency by 40% and enabling seamless third-party integrations with AWS and Microsoft Azure.

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
- Collaborated with cross-functional teams to design and deploy scalable, resilient Data Lakehouse components, utilizing Apache Iceberg and Google Cloud, ensuring quality, usability, and performance of solutions.

WORK EXPERIENCE

Software Engineer

06/23 - Present

CentraAlert, 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%**.
- **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.
- **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

