Rokesh Prakash

+1 934-451-9676 | rokesh2897@gmail.com | in/rokeshprakash | Rokesh28 | Portfolio | New York, USA

Education

Stony Brook University — Aug 2023 – May 2025
Master of Science in Computer Engineering [GPA: 3.88/4.00] — *New York, USA*

Indian Institute of Information Technology — Jul 2015 – May 2020
Dual Degree - B.Tech (Mechanical Engineering) & M.Tech (Advanced Manufacturing) [GPA: 8.59/10.00] — *Chennai, India*

Experience

Graduate Teaching Assistant — Aug 2024 – May 2025
Stony Brook University, Department of Electrical & Computer Engineering — *New York, USA*

- Instructed 100+ students in C and C++ with focus on object-oriented programming, system-level thinking, and debugging; reinforced Git fundamentals and version control workflows.

Software Engineer — Jun 2021 – Dec 2022
Congruent Solutions — *Chennai, India*

- Contributed to a U.S. retirement product, **serving over 5M** users on **Azure** by using **C#, Entity Framework, REST API, RabbitMQ, and SQL** for backend and **JavaScript, React.js**, and **ELK** for frontend integration and logging.
- Revamped **backend data flow** across **distributed services** to improve page response times by **300%** through **performance profiling** with **ANTS** and optimization of **SQL queries**, **Redis caching**, and **indexing strategies**.
- Architected a serverless pipeline that reduced manual Excel column-to-object mapping effort by **60%**, leveraging **ASP.NET Core Web API**, **Azure Functions**, and **React**.
- Reduced debugging time by **40%** by integrating **Serilog** with ELK stack (Elasticsearch, Logstash, Kibana) for real-time log monitoring and enhanced system observability.
- Automated 50% of customer emails by integrating **SendGrid API**, dynamic templates, and event-driven triggers with **RabbitMQ**.

Software Engineer — Jun 2020 – Jun 2021
SVP Laser Technologies — *Chennai, India*

- Developed a Windows-based **Embedded Machine Control Platform** for multi-axis machines using **C#**, **.NET Framework**, **WPF**, and **Entity Framework**, enhancing automation and precision in advanced manufacturing.
- Improved **system accuracy** by **40%** by leading the development of a **low-latency, real-time video processing module** using **C#**, **EmguCV**, and **WPF**, dynamically adjusting machine parameters to enhance **reliability** in performance-critical environments.
- Eliminated **30%** of recurring defects and improved release speed by implementing **test-driven development** and clean code practices using **MVVM architecture** and unit testing across modules.
- Engineered a containerized software suite, achieving **60%** faster setup times and eliminating configuration errors by delivering **Docker images** for seamless deployment across client environments.

Software Engineer Intern — May 2019 – May 2020
Titan Company Limited — *Chennai, India*

- Achieved **96%** accuracy by developing a full stack tool for material classification using **TensorFlow**, **Flask**, and **React**.
- Implemented a vision-based measurement tool in **C++** with **OpenCV**, enabling **0.05-unit precision** in modeling workflows.

Technical Skills

Programming & Development: C#, Python, Java, JavaScript, TypeScript, C++, C, VB.NET, SQL, LINQ, RESTful APIs
Frameworks & Libraries: ASP.NET Core (MVC, Web API), WebForms, WPF), Entity Framework, ADO.NET, Dapper ORM, React.js, Node.js, MySQL, RabbitMQ, Docker, Kubernetes (EKS, AKS), Terraform, Git, GitHub Actions
Cloud & DevOps: Azure (Web App, Functions, SQL Database, ACR, Blob Storage), AWS (EC2, EKS, Lambda, S3, DynamoDB), GCP (BigQuery)
Software Engineering: Agile Methodology (Scrum), Data Structure and Algorithm, Microservices, Object Oriented Programming, Design Patterns

Projects

Distributed Banking System with Raft Consensus on Redis Cluster | *Go, Raft, Redis, Distributed Systems* — Nov 2024 – Dec 2024

- Enabled **strong consistency** across **Redis clusters** by architecting a high-performance distributed banking system using a modified **Raft consensus algorithm** in **Go**.
- Achieved < 100**ms recovery time** from network partitions and node failures through a fault-tolerant recovery system.
- Reduced consensus latency by **55%**, enabling real-time processing of **4,000 TPS** with **sub-50ms** commit times.

PageTurners E-Commerce | *C#, Azure, Identity Framework, Stripe, SendGrid, SQL, Git* — Jun 2024 – Jul 2024

- Built **PageTurners**, a full-stack e-commerce site using **ASP.NET Core MVC**, **Azure Web App**, and **GitHub Actions**; integrated **Stripe**, **SendGrid**, and a **secure role-based authentication system**.

Multi-Level Feedback Queue Scheduler | *C, POSIX Threads, Operating Systems* — Mar 2024 – Apr 2024

- Designed a multi-level feedback queue scheduler in **C** using **POSIX threads**, enabling dynamic priority scheduling and improving CPU fairness across tasks.

Multi-Cloud Migration & CI/CD | *AWS, GCP, Docker, Kubernetes, EKS, ECR, Terraform* — Jan 2024 – Mar 2024

- Migrated the on-prem CloudMart eCommerce microservices to **AWS, GCP, and Azure**, improving scalability and reliability.
- Automated deployments with **Terraform**, **Docker**, and **AWS CodePipeline**, cutting rollout time by **60%** on **EKS** and **ECR**.
- Orchestrated **microservices** with **Kubernetes**, integrating **DynamoDB**, **Lambda**, and **BigQuery** for multicloud data Integration.

Certifications

Microsoft Certified: Azure Developer Associate - View Certificate — Sep 2022 – Sep 2023