

Asifur Rahman

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Systems-focused Software Engineer with 4+ years of experience developing distributed, event-driven systems for connected aerospace and IoT platforms. Experienced in avionics-adjacent communication systems, MQTT-based telemetry workflows, cloud-native backend services, and scalable messaging infrastructure. Strong background in Linux environments, automation, containerized deployments, and backend reliability engineering using Java, Python, C#, and C++. Proven ability to collaborate across firmware, infrastructure, and software teams to deliver reliable production systems in agile environments.

Professional Experience

Full Stack Software Engineer

SKYTRAC Systems | Ottawa, ON

Jul 2022 – Present

- Contributed to MQTT v5 communication architecture between SDL-350 avionics-connected devices and EMQX brokers, enabling secure telemetry, remote configuration, and command delivery workflows.
- Collaborated with firmware and systems engineers to design MQTT topic hierarchies and configuration workflows for connected aerospace communication systems.
- Developed backend consumers and processing pipelines for telemetry ingestion and device communication services.
- Built event-driven backend systems using Apache Kafka (AWS MSK) to support scalable asynchronous message processing.
- Designed and implemented REST APIs in Java and Python for system integration, monitoring, and operational tooling.
- Developed and deployed containerized services using Docker, GitLab CI/CD, and AWS infrastructure.
- Supported infrastructure reliability and scalability using Redis, RabbitMQ, NGINX, and AWS load balancing solutions.
- Assisted with migration of legacy Hyper-V systems to hybrid cloud/on-premise environments to improve latency, availability, and operational reliability.
- Worked in Linux-based environments supporting deployment, troubleshooting, and system verification activities.
- Collaborated across software, firmware, and infrastructure teams in an agile development environment.
- Investigated and remediated a GeoServer vulnerability after identifying botnet-driven exploit attempts against externally exposed services.
- Performed secure upgrade and deployment activities, implemented stricter AWS security policies, and improved infrastructure hardening measures to reduce exposure to unauthorized access.
- Supported operational monitoring and incident-response efforts for cloud-hosted and network-connected systems.

Research Assistant – Software Engineer

Payment Evolution | Ottawa, ON

Jan 2021 – Aug 2022

- Developed enterprise backend applications using C#, ASP.NET MVC, SQL Server, and MongoDB.
- Implemented business logic and backend services using object-oriented software engineering principles.

- Refactored legacy systems to improve maintainability, performance, and long-term reliability.
- Collaborated directly with stakeholders to gather requirements and deliver production-ready software solutions.
- Independently managed assigned development tasks through implementation, testing, and deployment phases.

Research Assistant – Back-End / Systems Developer

Carleton Immersive Media Studio (CIMS) | Ottawa, ON

Jan 2021 – Jun 2022

- Developed enterprise backend applications using C#, ASP.NET MVC, SQL Server, and MongoDB.
- Implemented business logic and backend services using object-oriented software engineering principles.
- Refactored legacy systems to improve maintainability, performance, and long-term reliability.
- Collaborated directly with stakeholders to gather requirements and deliver production-ready software solutions.
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Technical Skills

Programming & Scripting: Java, Python, C#, C++, JavaScript, Shell Scripting

Systems & Networking: Linux (Ubuntu, CentOS), Distributed Systems, REST APIs, Microservices, NGINX, TLS Routing, Networked Device Communication

Messaging & Telemetry: MQTT v5, EMQX, Apache Kafka, RabbitMQ, Event-Driven Architectures

Cloud & DevOps: AWS (EC2, S3, IAM, MSK), Docker, GitLab CI/CD, AWS ECR, Helm

Databases & Storage: PostgreSQL, MongoDB, SQL Server, DynamoDB, Redis

Monitoring & Infrastructure: Prometheus, Grafana, Hybrid Cloud/On-Prem Deployments

Projects

Rentral Platform - Technical Consultant/Developer

- Developing Next.js frontend systems and distributed backend microservices in Go (Golang) for scalable cloud-native applications.
- Implementing asynchronous messaging and workflow orchestration using AWS SNS, SQS, and SES.
- Assisting with management and monitoring of DigitalOcean Kubernetes infrastructure, including container deployments, service reliability, and operational support.
- Collaborating directly with the founder on system architecture, infrastructure decisions, and deployment strategies in a fast-paced startup environment.
- Supporting scalable distributed systems design, deployment automation, and production troubleshooting activities.

Education

Bachelor of Computer Science (Honours)

Carleton University | 2017 – 2022

Concentration: Software Engineering