S. M. Faisal Rahman
Software Engineer

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Summary

Aspiring Software Engineer with about 7 years of professional experience of building customer focused mobile & web applications to large scale distributed systems ingesting requests per second well into billions.

- **Java** (J2EE backend, Spring -boot, Android)
- **C++** (Clang, GCC, Android rendering)
- **Backend** (JS, Python, Rust, Go)
- **Front-end** (HTML5, CSS3, JS, React & Vue)
- **Cloud** (AWS; specialising in event streaming)
- **DBMS** (MySQL, Mongo, Postgres, DynamoDB)

Industry Experience

Software Engineer   November 2023 - Now
Trilitech - Tezos Blockchain, London, UK

- Leading the Infrastructure team to design Web2 standard ease of development in Web3 space for efficient & seamless integrations.
- Migrated 2 major blockchain indexers to Cloud (GCP) to achieve 90% reduction in developer hours per quarterly protocol upgrade.

Software Development Engineer   July 2021 - November 2023
Amazon (AWS S3), Cambridge, UK

- Working for s3-eventbus team:
  - Lead the creation of a brand new type of event flow encompassing 4 different AWS services at billions events/sec global scale.
  - Optimized event streaming infrastructure cost by 50% with targeted implementation of customized real time compression and encoding.
  - Created canary test infrastructure from scratch for S3 & EventBridge integration for automated correctness detection.
  - Reduced S3 wide deployment time ~5% by optimizing critical integration test execution from 3.5 hours to 12mins.
  - Delivered high TPS (Billions/sec) failure mode reingestion infrastructure to ensure 99.99% durability of events.
  - Lead the campaign to achieve 99.99% archive durability and 99.999% auditing accuracy for real time event streaming in billions scale.

Full-stack Software Developer   February 2020 - April 2021
European Bioinformatics Institute (EMBL- EBI), Cambridge, UK

- Worked on Europe PMC (Europe PubMed Central - europepmc.org)
  - Took ownership of system wide ORCID integrations (Java, Vue)
  - Solo implemented article storage microservice (Java, RabbitMQ)
  - Solo introduced new article claim feature (Vue, Java)
  - Contributed to complete reimplementation of UI (Vue).
  - Took over development & maintenance of THOR project (www.ebi.ac.uk/europepmc/thor)
  - Introduced smart worker thread scaling in data consumer microservices to work regardless of underlying VM features (Java)

Software Engineer   April 2018 - December 2019
Samsung R&D Institute Bangladesh (SRBD), Dhaka, Bangladesh

- Awarded **Icon Engineer Certificate**, Achieved **SWC Professional Certificate** for programming competency
- **Social media app - iOS (Swift):**
  - Took ownership of feed and post modules
  - Designed content Feed engine optimized for to network activity
  - Flexible SDK architecture design for Samsung Cloud interfacing
  - Optimized Gif player (not present in iOS natively)
  - Periodic code reviews & design reviews (100% of codebase)
  - App cache design & implementation
  - 80% unit test coverage in SDK
  - Coded about 30% of the complete codebase
- **Artecture (drawing app) - Android (Java, C++):**
  - Retained a rating 4.3 with 1M+ users
  - Designed & implemented Permission Controller module
  - Written a custom build system for Native C++ codebase
  - Ported legacy code to Android Studio
  - Adapted complete legacy GNU C++ codebase for Clang
  - Optimized C++ codebase to introduce ARM64 compilation
  - Continuous improvement of C++ POSIX thread management
  - Developed internal tools for proper dependency updates

Remote Software Engineer   November 2017 - April 2018
Far-East IT Solutions Limited, Dhaka, Bangladesh

- **Flight booking system - Laravel backend (Designed 100% of the product):**
  - Designed REST API backend following MVC design pattern from scratch
  - Designed search cache (Redis)
  - Docker orchestration (unreleased)
  - Designed & deployed full MySQL database
  - Bulk SMS/Email message queue
- **Flight booking system - ReactJS admin panel (Coded 50% & Released):**
  - Implemented Client side search & filter
  - Integrated payment gateway (BKash)
  - Bulk SMS and email dashboard
- **Flight booking system - ReactJS user site (Released & handled 30% issues):**
  - User verification
  - Landing page

Education

Bachelor of science, Computer Science and Engineering   2014 - 2018
Military Institute of Science and Technology, Dhaka

- **Club affiliations:** MIST Robotics Club, MIST Computer Club; *increased 30% budget savings automating event management and payment tracking gaining much smoother user experience. OpenCV based image processing for initial screening of receipts.*
- **Thesis:** A proposed transport layer security mechanism for IoT multicast protocol suite and simulated performance comparison (key: DTLS for multicast)