Fahim Ahmed

Sr. Software Engineer

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Summary

Aspiring software engineer, currently lead developer of **Audio & Video Engine** for iOS FirstNet-PTT Project. Proficient in algorithms, data-structures, and design-patterns. Experienced in Competitive Programming (Top 3% in HackerRank). Interested in **designing new systems, architectures** and **building scalable products** hands on. Open to explore new opportunities that align with the vision to expand my skillset.

Industry Experience

Samsung Research, Dhaka, Bangladesh

Senior Software Engineer	April, 2020 - Present
Software Engineer	April, 2018 – March, 2020

- Awarded **Icon Engineer of The Month** (May, June 2019)
- Awarded **Team of The Year, 2018** (as member of team iOS Gear 360 Manager)
- Achieved Certification from **Samsung Electronics** for passing **Software Competency level of Professional**. (June, 2018) (Globally 2nd Most Prestigious Competency in Samsung).
- Worked in **Samsung HQ, South Korea & Samsung Research Bangalore, India** (Onsite) for 6+ months (R&D Collaboration).

- #### FirstNet (U.S.A) Push-To-Talk
  A "Mission Critical" emergency communication solution for **FirstNet (USA)** based on the public safety standards set by the **Third Generation Partnership Project (3GPP)**. Provides various features for emergency communication including Audio-Video Communication, Emergency Alert & Positioning, etc. in various platform including iOS & android.
  - Took ownership of native **iOS Audio & Video Engine** Module. Coded **about 40% of Audio, 60% of Video Engine**.
  - Developed Audio-Video Engine achieves higher throughput in lower bandwidth compared to market standards.
  - Feature development in other modules. Such as-
    - Network core for **secured SIP & HTTP** Communication
    - Call Manager Module.
    - VoIP Push (APNS) Handling
    - Various Service Subscription Module.
  - Remote work with **SEA (U.S.A) & SR (S.Korea)** for project development & deployment.
  - Periodic Code Reviews & Design Reviews of 100% Codebase.
  - Regularly arranging **in-team mentoring** for best practices, usage of algorithm & DS, software system design, etc.
  - Arranging **in-team knowledge transfer sessions** for complete team synchronization regarding all updates.
  - <u>Developed in</u>: C++, Objective-C++ (Framework); Swift (Application).
  - <u>Frameworks</u>: AVFoundation, AudioToolbox, VideoToolbox, METAL, CURL, reSIProcate, OpenSSL, PushKit, CallKit, etc.
  - <u>Database</u>: SQLite (Application Side)

- #### Gear 360 Camera Manager (iOS)
  - Developed Image & Video Processing & Rendering Feature using Apple's METAL GPU Library.
  - Designed algorithms for image processing for Panorama, Infinite-Panorama, Fish-Eye, and 360 Views.
  - Developed in VIPER architectural pattern, following proper object-oriented principals.

- #### Other Languages & Frameworks
  - (Language) JAVA, Python, JS; (Framework) ReactJS, (Database) MySQL, Oracle, (Version-Control) Git, Gerrit

Education

Military Institute Of Science & Technology (MIST), Dhaka, Bangladesh

Bachelor of Science, Computer Science & Engineering	2014-2018

- **CGPA:** 3.36 (on a scale of 4.00)
- Recognitions:
  - Runner Up – App Development, **IUT ICT FEST, 2017**
  - MIST Best Coder of The Year **2015, 2014**
- Publications:
  - A New Algorithm to Compute Single Source Shortest Path in a Real Edge Weighted Graph to Optimize Time Complexity *1st Author,* 17th ICIS/IEEE, Singapore, 2018, ~400 Reads, 2 Citations.
  - Smart Self Position Aligning Chair for a Modern Conference Room *2nd Author,* 17th ICIS/IEEE, Singapore, 2018; ~200 Reads, 4 Citations

- Competitive Programming Highlights:
  - Qualified for ACM ICPC Asia Dhaka Regional 2015, ranked 30th. (MIST_Beginners, Out of 120+ teams.)
  - Personally achieved **above 97% percentile in HackerRank**.
  - Problem Setter & Judge in various Intra & Inter University Contest