Naseef Chowdhury

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>LANGUAGES AND TECHNOLOGIES

- **Proficient:** C++ (11, 14), C, Boost, Git, TCP/IP, Network Programming
- **Exposure:** Kotlin, Python, TensorFlow, Scikit-learn, Pandas, Numpy, Java

>PROFESSIONAL EXPERIENCE

Poly | Software Development Engineer   Apr 2021 - Present

- Implementing Poly OS ecosystem Platform which is based on Android OS, to build highly efficient conferencing devices and provide platforms for Zoom and Microsoft Teams utilizing C/C++, Java, and Kotlin.
- Implementing efficient camera tracking and speaker framing using Computer Vision and Sound Source Location (SSL) information.
- Implemented LED support for USB cameras based on Call/Meeting Status utilizing UVC controller and C++.
- Implemented Camera Shutter and Mic mute status notification from Camera to Microsoft Teams.
- Designed and developed HDMI camera Ingest using C/C++, Java on Android OS to share screen on Poly Studio X Series.
- Integrated and modified the Android Talkback app into Poly Studio products to improve accessibility of Poly Studio products for disabled people.
- Implemented LLDP(Link Layer Description Protocol) on Poly Studio products using C/C++ to support emergency calls and share immediate router/switch info to the server.

New Mexico Tech | Graduate Research Assistant   Aug 2018 - Apr 2021

- Created a system to detect malware in Android apps from 1M+ APKs, leveraging machine learning algorithms (Random Forest, KNN, SVM, Decision Tree, Logistic Regression) in Python, TensorFlow, and Scikit-Learn.
- Authored research paper *Android Malware Detection in Large Dataset: Smart Approach*, published in FICC 2020, March 2020 in San Francisco, demonstrating achievement of 85 - 92% accuracy in finding malware.
- Authored research paper *Advanced Android Malware Detection Utilizing API Calls and Permissions*, accepted in ICITCS2021, May 2021, demonstrating achievement of 86 - 99% accuracy in finding malware.
- Implemented K Means clustering algorithm to find important gene features for various types of cancer, this project was funded by Los Alamos National Laboratory.

ringID BD | Software Engineer   Jun 2015 - Jul 2018

- Worked as a core member of the C++ SDK team, developing SDK for platform engineers to integrate into the social networking site 'ringID' which has more than 5 million active users.
- Engineered cross-platform SDK sub-module in C/C++ responsible for Audio/Video Calls and Chat functionalities in 'ringID'.
- Created SDK using C/C++, Java, C#, and Swift, functioning as a bridge between server and application side while providing software developers with streamlined abstraction layers for Android, iOS, and Windows platforms.
- Ensured the extensibility of SDK codebase using multiple design patterns (abstract factory, template method) in C/C++, integrating the Google test framework for automated testing.
- Implemented cross-platform Client Cache for ringID app based on Least Recently Used (LRU), and Least Frequently Used (LFU) cache replacement policies in C++.

Kona Software Lab | Software Engineer   Nov 2014 - Jun 2015

- Implemented caching and logging mechanism for Windows Smart Card Minidriver utilizing C++, improving the performance of drivers by over 50% while making debugging easier.
- Enabled data sharing between multiple processes utilizing C++, minimizing data redundancy which reduced computational load on smart cards by more than 25%.

Eyeball Networks | Software Engineer   Dec 2012 - Oct 2014

- Developed support for 1,000 concurrent VoIP calls using C++, and Socket Programming; SDK was successful in making concurrent VoIP calls with efficient memory and CPU resource usage.
- Implemented Alternate Server features using C++ to provide options for alternate servers when current server resources are exhausted, integrated into the WebRTC framework.

>EDUCATION

M.S. Computer Science, *New Mexico Tech*   Apr 2021
B.S. Computer Science & Engineering, *Chittagong University of Engineering & Technology*   Dec 2012