Rajib Chandra Das

Date of birth: 04/10/1992 | **Nationality:** Bangladeshi | **Phone number:**

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WORK EXPERIENCE

10/2022 – CURRENT Hamburg, Germany
SOFTWARE DEVELOPMENT ENGINEER SMARTCLIP EUROPE GMBH

- developed a project which helps testing, debugging, implementing assembly functions easily.
- implemented **stricmp**(case insensitive string comparison) using assembly x86_64 which outperforms currently available solution https://linux.die.net/man/3/strncasecmp
- implemented **find_i_str**(case insensitive string search) using assembly x86_64 resulting 20% faster execution in the whole process.
- implemented toLower and toUpper conversion in assembly x86_64, which outperforms C++ standard library function **std::transform** in specific scenarios.
- wrote a solution using python, that automatically generate graphs to compare and visualize different implementations based on execution time.
- added several panels showing statistical data to Grafana metrics.
- worked on 25+ refactoring, improvement, feature and bug tickets.
- wrote 50+ new unit tests for newly added implementations.

Skills: **C++**, **Python**, **assembly**

30/06/2019 – 09/2022 Kiel, Germany
FULL STACK DEVELOPER (PART-TIME) WOBE-SYSTEMS GMBH

- played a key role in the development, improvement and operation of web-based applications.
- worked with 4 different highly functional web applications, implemented 50+ features using **Node.js**, **Express.js**, **Vue.js**, **Typescript**, **HTML**, **CSS** etc
- implemented 100+ APIs(**REST**, **Graphql**) interecting with databases i.e. **PostgreSQL**, **MongoDB**.
- worked with various industry-adopted technologies and frameworks i.e. **Bootstrap**, **Flask**, **jQuery**, **Prisma** etc
- wrote 200+ unit tests to verify the back-end functionalities.
- documented 100% of technical specifications and dependencies of applications.
- worked with a research project based on microservice architecture using Python, Golang.
- designed a recursive data structure to analyze, process through different services and visualize into the workspace easily.

Skills: **Vue.js**, **MySQL**, **PostgreSQL**, **TypeScript**, **Python**, **Express.js**, **Git**, **GraphQL**, **JavaScript**, **Vuetify**, **MongoDB**, **HTML**, **Node.js**, **REST APIs**, **CSS**, **Go**

31/03/2019 – 30/03/2020 Kiel, Germany
TEACHING ASSISTANT THE UNIVERSITY OF KIEL

- Concurrent Programming(Java): Thread Synchronizations, RMI, Concurrent Transactions etc.
- Functional Programming(Haskell): Type signatures, List Comprehensions, Pattern matching, Control Structures, Higher-order functions, Lambdas, IO Actions etc
- Logic Programming(Prolog): Logic Puzzles, Unification Grammar, SLD-Resolution etc

30/09/2015 – 29/09/2018 Dhaka, Bangladesh
SOFTWARE ENGINEER IPVISION CANADA INC

- worked with conversion, mirroring, rotating, scaling, cropping for different raw audio, image and video data like **RGB24**, **RGB32**, **YUV-I420**, **YUV-NV12**, **YUV-NV21**, **YUY2**, **BMP**, **PCM**, **PNG**.
- worked with encoder and decoder like **H.264**, **G.729**, **Opus**.
- developed Cross Platform solution for real time video data processing like **conversion**, **resize**, **beautify**, **encode**, **decode**, **packetize**, **depacketize** etc.
- implemented Bi-Lateral filter, Gaussian filter based on recently published paper to get smoother output during video call/live-stream.

- configured **Jenkins**, **OwnCloud** to perform automated release and distribute files for all platforms.
- optimized solutions using raw **assembly** for **arm32** and **arm64** platform with NEON extension, resulting 16 times faster execution time.

Skills: **C, C++, Java, Objective-C, Android Development, Android Studio, iOS Development, XCode, Jenkins, Owncloud, FFMPEG, VideoCodec, AudioCodec**.

30/04/2014 – 29/09/2015 Dhaka, Bangladesh
SOFTWARE ENGINEER EYEBALL NETWORKS

- integrated **ffmpeg** framework, gained expert knowledge on ffmpeg advanced commands for **broadcasting**, **transcoding**, converting video formats.
- integrated **OpenH264** Encoder & Decoder based on standard protocol. RTP payload construction follows **rfc6184**.
- integrated **VP8** Encoder & Decoder based on rfc6386.
- integrated **MS-RTP** Protocol to communicate with Lync 2013.
- converted SDP (Session Description Protocol) while **SIP** to **WebRTC** audio/video call and vice versa.
- implemented Active mode and Passive mode DTLS-Negotiation Process for WebRTC audio/video call.
- added Google Test Framework for unit testing.
- created patch using bash scripts to remove or add GTest Framework for AnyConnectGateway.
- worked with SIP and XMPP server applications.
- solved 50+ bugs and memory leaks.

Skills: **C, C++, SIP, WebRTC, MS-RTP, VP8, H264, VoIP, TCP/IP, GTest**.

EDUCATION AND TRAINING

30/09/2018 Germany
MASTER IN COMPUTER SCIENCE Christian-Albrecht University of Kiel

31/01/2010 – 27/02/2014 Bangladesh
BACHELOR IN COMPUTER SCIENCE Shahjalal University of Science and Technology

Final grade CGPA - 3.52 out of 4.00

Thesis Ranking the Locations and Predicting Future Crime Occurrence by Retrieving News from Different Bangla Online Newspapers.

ADDITIONAL INFORMATION

SELF DEVELOPMENT

Programming Activity

Honorable Place in ICPC Dhaka Regional Contest, 2013 (Team: **SUST_Unreal**).
Honorable Place in SUST SIUPC, 2011 (Team: **SUST_Untitled**).
Green Coder in Codeforces (Current Rating: 1407, ID: **RajibTheKing**).
Green Coder in Topcoder (Current Rating: 956, ID: **RajibTheKing**).
Solved more than 1000 algorithmic problems on UVA, TJU, LightOJ, Leetcode.