



# Rajib Chandra Das

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

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**Address:** Tonberg 6, 24113, Kiel, Germany (Home)

## WORK EXPERIENCE

10/2022 – 31/05/2024 Hamburg, Germany

**SOFTWARE ENGINEER SMARTCLIP EUROPE GMBH**

- experienced with **Digital Advertising** solution that handles 1.9 billion requests per day.
- implemented stricmp(case-insensitive string comparison) using **assembly x86\_64** with **SSE4.2** instructions, which outperforms currently available solution <https://linux.die.net/man/3/strncasecmp>, resulting 20% faster execution in the whole process.
- generated graphs for comparing and visualizing different implementations for benchmarking using **Python**
- experienced in monitoring tools i.e. **Prometheus, Grafana, Greylog**.
- worked on 25+ refactoring, improvement, feature and bug tickets mostly in **C++17**.
- wrote 50+ new unit tests (**Google Test**) for newly added implementations.

**Skills:** C, C++, C++17, Python, Assembly, Prometheus, Grafana, Graylog, Digital Advertising, Jira, Git, Jenkins, Google Test, GNU Debugger, Makefile

30/06/2019 – 09/2022 Kiel, Germany

**SOFTWARE ENGINEER - FULL STACK (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 **JavaScript, TypeScript, Python, Go, Node.js, Express.js, Vue.js, HTML, CSS** etc
- implemented 100+ APIs(**REST, GraphQL**) interacting with databases i.e. **PostgreSQL, MongoDB**.
- worked with various industry-adopted technologies and frameworks i.e. **Bootstrap, Flask, jQuery, Prisma** etc
- worked with a research project based on **Microservice** architecture.
- wrote 200+ unit tests to verify the back-end functionalities.
- documented 100% of technical specifications and dependencies of applications.
- designed a recursive data structure to analyze, process through different services and visualize into the workspace easily.

**Skills:** JavaScript, TypeScript, Python, Go, Node.js, Express.js, Vue.js, REST, GraphQL, MySQL, PostgreSQL, MongoDB, Prisma, Jira, Git, Microservice

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 - FULL STACK IPVISION CANADA INC**

- worked with a Social Network solution, currently reached 5 million downloads (<https://bit.ly/4ajc9Rq>).
- designed and implemented Cross-Platform SDK for audio and video data processing.
- 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**.
- implemented Bi-Lateral filter, Gaussian filter based on recently published paper to get smoother output during video call/live-stream.
- experienced in **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, assembly, Android Development, Android Studio, iOS Development, XCode, Jenkins, Owncloud, FFmpeg, VideoCodec, AudioCodec.**

30/04/2014 – 29/09/2015 Dhaka, Bangladesh

## **SOFTWARE ENGINEER - BACKEND** EYEBALL NETWORKS

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- designed and implemented real time transcoding server for video data i.e. **H264** and **VP8**
- implemented signaling for audio/video call among **SIP** and **WebRTC** client.
- 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.
- added Google Test Framework for unit testing.
- solved 50+ bugs and memory leaks, experienced in debugging tools i.e. **Valgrind, GDB**.

Skills: **C, C++, SIP, WebRTC, MS-RTP, VP8, H264, VoIP, TCP/IP, Google Test, Valgrind, GDB.**

## ● **EDUCATION AND TRAINING**

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30/09/2018 – CURRENT Kiel, Germany

### **MASTER IN COMPUTER SCIENCE** Christian-Albrecht University of Kiel

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Website <https://www.uni-kiel.de/de/>

31/01/2010 – 27/02/2014 Sylhet, Bangladesh

### **BACHELOR IN COMPUTER SCIENCE** Shahjalal University of Science and Technology

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Website <https://www.sust.edu/> | **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.

## ● **SELF DEVELOPMENT**

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### **Programming Activity**

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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.