Md. Akibul Islam

✉ akibulislam632@gmail.com | 📞 +880-1402452989 | 💼 Akib Alvee | 🐙 Akib-Alvee

EDUCATION

Shahjalal University of Science & Technology, Sylhet   Feb 2018 – March 2023
BSc(Engg.) in Computer Science & Engineering
CGPA: 3.66/4.00 (**3.87** in last two years)

Notable Courses:
Machine Learning, Data Science, Bio-Informatics, Artificial Intelligence, Computer Security, Operating Systems, Computer Graphics, Digital Signal Processing, Database Systems, Compiler Design, Computer Architecture, Microprocessors, Computer Networks, Data Communication

STANDARDIZED TEST SCORES

Graduate Record Examinations (GRE): 302 (Q: 162, V: 140, AW: 3.0)
Test of English as a Foreign Language (TOEFL): 91(R:25, L:26, S: 19, W: 21)

RESEARCH EXPERIENCE

Undergraduate Thesis
Enhancement of Underwater Image Semantics Using Multi-Domain Neural Rendering

Supervised by M. Jahirul Islam, PhD., PEng (Professor, SUST) and Advised by Summit Haque (Assistant Professor, SUST), Sowmen Das(Research Engineer, Mediatek Research UK)

- After conducting extensive literature review on underwater image enhancement and restoration, identifying common image degradation issues and challenges in underwater environments, we set our focus to overcome the low-light, color imbalance and saturation distortions in underwater images
- Used Normalizing flows combining with ***multiple color spaces*** to extract the complex features from raw images, given the limited scene diversity in the underwater image dataset
- Flow-based model was motivated from OpenAI's ***Glow*** architecture to enhance underwater images, delivering results that matched the quality of state-of-the-art methods and we are planning to publish this work soon

WORK EXPERIENCE

Samsung R&D Institute Bangladesh | Visit   April 2023 – Present
Software Engineer

- Worked on the CameraPlugin module of **Samsung SmartThings** to enable the live streaming, two-way talk using ***WebRTC*** & ***Gstreamer*** framework
- Developed the LiveStreaming, Two-way-talk, Audio-Video Mixing and Transcoding pipeline from scratch using Gstreamer framework in C++
- Worked with SDP Offer exchange protocol, media stream transmission/receiving through the Transceiver module, and P2P Connection establishment via WebRTC in C++
- Implemented hardware-accelerated rendering using Hardware Pointer in C++ and utilized AppServiceConnection for efficient IPC communication, including request handling and data parsing from the server using the .NET framework
- Developed the Push Notification features for CameraDevices, also handled the Server Sent Event during the streaming from other IoT devices
- Contributed to the Android part of **Samsung DeX**, enabling USB and Wi-Fi connections with WindowsApp, as well as file drag-and-drop and copy-paste between PC and mobile devices
- Worked with the Connection Broadcast event to establish the connection using Socket Programming in Java

Academic Projects

TourGuide | ⊘   Nov 2021 – Dec 2021
Used Technologies: Python, Django, PostgreSQL
- Web platform for the reservation of tours and flights, sharing experiences, rating recommendations, and providing feedback
- Led backend development for tour bookings, user authentication, blogging, and airline reservations

FitmentCraft | ⊘   June 2022 – Aug 2022
Used Technologies: NodeJS, ReactJS, ExpressJS, MongoDB
- Simulated an e-commerce system integrating an online retailer, a backend supplier, and a bank to handle transactions
- Managed the Bank and Supplier APIs, facilitating seamless transactions between users, the e-commerce platform, and the supplier

Coloring-Black-and-White-Photos | ⊘   July 2021
Used Technologies: Tensorflow-keras, openCV
- Implemented and trained an adversarial model based on the paper of **ChromaGAN** that successfully colorizes BnW images by learning perceptual and semantic correlations between color distributions and class features

Participations & Accomplishments

Excellence Award, Samsung R&D Institute Bangladesh   Nov 2024
- Received Excellence award for my contribution in **SmartThings Windows** Project development in July-September on the year 2024

Samsung AI PoC Exhibition 2024 | Visit   Jan 2024
- Developed and showcased a Proof of Concept for **Underwater Image Enhancement** to over 500 attendees, and securing a **Top Ten** position in the exhibition based on audience voting

Samsung Software Competency Test - Professional Level Acquired   March 2024
- Monetary award of **40,000 BDT** for passing Samsung's Software Competency Test

SUST SWE Technovent Capture The Flag   Jan 2023
- Finished the event in 5th postion among 25 teams

Leading University CSE Carnival Hackathon   June 2019

Community Leadership

Class Representative   Jan 2019 – March 2023
Dept. of CSE, SUST
- Acted as the key link between students and faculty, communicated student concerns, coordinated class activities, maintained clear communication, and cultivated a positive learning atmosphere

Creative Executive   Nov 2019 – Dec 2021
SUST ACM Student Chapter | Visit
- Managed multimedia operations for various workshops and effectively represented them on digital platforms

Team Leader   Apr 2019 – Mar 2019
LICT SUST Tech Fest 2019
- Organized and executed the event **Project Showcasing**

Skills

Progamming Skills: Solved 1200+ problems on LeetCode, CodeForces, LightOJ, VJudge, StopStalk

Languages: C++, C, C#, Python, Java, Javascript

Framework: Pytorch, Gstreamer, WebRTC, Django, ReactJS

Version & Task Management: GitHub, Gerrit, Jira

References

M. Jahirul Islam, PhD., PEng.
Professor
Shahjalal University of Science & Technology, Sylhet
Email: jahir-cse@sust.edu

Sowmen Das
Research Engineer
Mediatek Research UK
Email: sowmendipta@gmail.com