

Sajib Talukder

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RESEARCH INTEREST Software Engineering, System Design and Security, Game Development, Artificial Intelligence, Machine Learning , Human Computer Interaction, Computer Vision

CAREER OBJECTIVE With a strong foundation in problem-solving and a knack for quickly understanding new concepts and tackling complex challenges, I am well-prepared for research endeavors. My extensive experience in high-pressure teamwork and my enthusiasm for embracing novel research challenges make me eager to contribute my expertise and experience to pioneering research.

EDUCATION **B.Sc. in Computer Science and Engineering**
Khulna University of Engineering & Technology
CGPA: 3.50 / 4.00 (last four terms **CGPA 3.70**)
Period Attended: February 2017- April 2022.

Thesis: Did a thesis to detect different health events (Yawning, Sleeping, Exogenous Health Event) on multiple people through webcam in real-time using a rule based and a deep learning model, later integrated the model into a software, and used generative AI to give responses to the users.

Ph.D.(First Year, Ongoing)
George Washington University (GWU), Washington, DC.
Received Distinguished Fellowship Award.
Period Attended: Fall 2023- present.

RESEARCH EXPERIENCE

- **Graduate Research Assistant (George Washington University)** [09.2023-Present]
By leveraging advanced computer vision, data processing techniques and knowledge of Industry, my work aims to analyze human factors through machine learning , AI , image processing and make the model usable for general users and give response in real-time.

- **International Graduate Intern (Kent State University)** [04.2022 – 12.2022]
Worked remotely with a research team to develop a system named **Smart Trashcan**. I contributed to the Android section and developed a machine learning model to identify trash types and provide information about the trashes. **ATR Team**

SKILLS

- **Programming Languages:** C++, Python, TypeScript , JavaScript, Swift, Java, C#
- **Frameworks:** Angular, Flask, Laravel , Android, IOS
- **Web:** HTML5, CSS3, Tailwind CSS, ES6, Asp.net, NodeJS
- **Database:** MySQL, MongoDB, SQLite, Oracle
- **Version Control:** Git
- **Others:** OpenCV, Yolo, OpenGL, Machine Learning Libraries

WORK EXPERIENCE	Software Engineer Shohoz Limited 07.2021 – 08.2023 Dhaka, Bangladesh	<ul style="list-style-type: none"> Designing and building advanced applications for the web and cross-platform, ensured security using 2 way AES encryption. Collaborating with product teams to define, design, and ship new features and maintain security, developed a deep learning model based on user preferences data. Worked in Single Page Applications, Progressive Web Apps, State Management(Store/Redux), PWA Android and iOS app
	Software Engineer Bangladesh Navy Project Based Khulna, Bangladesh	<ul style="list-style-type: none"> Integrated a portion of my thesis work to detect sleepiness Responsible for Database Design, Backend and Frontend development Hardware, Software Integration and communication. Collaborated with the people of the Bangladesh Navy to meet their requirements
	Software Engineer Elifelimo,USA (Remote Consultant) 04.2023 – 08.2023	<ul style="list-style-type: none"> Optimized existing SQL Queries Added and Contributed on some new features on the frontend side of transactions for agency, partner, affiliate panel of ElifeLimo
SELECTED PROJECTS	<ul style="list-style-type: none"> RailSheba App — Bangladesh Railway’s official App to purchase online tickets of trains, search for your desired trains, choose your seats, make an online payment, and travel with ease using your e-ticket. Used Frameworks/tools: Angular, PWA, TWA, Store, Service Worker, Tailwind CSS, GAnalytics <i>Play Store Link (1million+ Downloads)</i> <u>Web Link</u> Digital Divisional Record Book (DDRB) — An intranet based private project by Bangladesh Navy Comflot West. Built a web service with a data processing tool that can provide notification, and suggestion over some private and confidential data of the Bangladesh Navy that helps some personnel to make decisions and run the working system smoothly and quickly. Frameworks/tools: Flask, SQLite, HTML, CSS Naval Ship Maintenance Automation System — A schedule management system that can track the currently running maintenance and schedule future maintenance based on current maintenance. Frameworks/tools: IoT, Python, Flask, SQLite, HTML, CSS Autonomous Driving Simulation: Genetic Algorithm (NeuroEvolution of Augmenting Topologies) based simulation to train simulated cars to follow path and move automatically. Frameworks/tools: Python, NEAT, Neural Network, PyGame <u>Github Link - Code</u> MomentAI — Machine Learning and AI based system to detect health events, based on the events provide suggestions using generative AI. Used Frameworks/tools: OpenCV, MediaPipe, YoloV8, Python Libraries ICE Hockey — A single player Game where the AI agent is controlled by Finite State Machine. Used Frameworks/tools: AI, Game Theory, Python <u>Github Link – Code</u> Snake-Game — A Conventional Snake Game Developed for the web. Used Frameworks/tools: Angular, Game Theory, Firebase <u>Github Link– code</u> <u>PlayLink</u> StudyAlly — An Android App designed for children to learn fundamental studies with a real time OCR to detect words and sentences in English. Used Frameworks/tools: Android Studio, Java, NLP, Machine Learning <u>Github Link – Code</u> 	

SPORTS PROGRAMMING EXPERIENCE	<ul style="list-style-type: none"> Solved 800+ programming problems Codechef: Handle—<u>staluk</u> , Rating: 1670+ Lightoj: Handle—<u>sajib talukde</u> ,Solved: 120+ Codeforces: Handle—<u>SajibTalukder</u>, Solved: 300+ UVa: Handle—<u>staluk</u>, Solved: 50+ LeetCode: Handle—<u>Staluk</u>, Solved: 190+ 50+ Online Contests
VOLUNTEERING AND COMPETITION EXPERIENCE	<ul style="list-style-type: none"> Attended, 103rd TRB Annual Meeting 2024, in Washington D.C. Participant, BACS (Bangladesh Advanced Computing Society) - Regional Programming Camp, 2017 Volunteer, 2nd CSE fest of Khulna University of Engineering & Technology named BitFest 2019 Participant, App development challenge arranged by Nascenia, 2020 Secured Second Position
ENGLISH PROFICIENCY	<ul style="list-style-type: none"> IELTS: Overall Band Score 7 , Attended on 31st March, 2023 (Listening: 7.5, Reading: 7.0, Speaking: 7.0, Writing: 6.5)
