



Shifat Solaiman

Dhaka, Bangladesh | solaimanshifat3@gmail.com | +880 1521400622 | shifatsolaiman.github.io
linkedin.com/in/solaimanshifat | github.com/shifat1604112

Education

CHITTAGONG UNIVERSITY OF ENGINEERING AND TECHNOLOGY (CUET), Feb 2017 – July 2022
B.SC. IN COMPUTER SCIENCE & ENGINEERING

- GPA: 3.55/4.0  **WES Evaluated**
- **Merit Position:** 21st out of 131 students  **Transcript**

Work Experience

Software Engineer, Samsung – Dhaka, Bangladesh October 2022 – Present

- Developed and maintained Controller and Utility applications for Samsung Galaxy Watch using Java, Kotlin, and Wear OS SDK, improving functionality and user experience.
- Led end-to-end development of the WatchSiren application for the Samsung Galaxy Watch Ultra, successfully delivering the project within 2 months under a highly compressed timeline.
- Collaborated with cross-functional teams at Samsung Headquarters (South Korea) and Samsung R&D Institute (India) to design and implement new features for wearable devices.
- Optimized application launch performance by 42% (from 1200ms to 700ms), resulting in reduced latency and enhanced user experience.
- Ideated, prototyped, and delivered 3 functional Proofs of Concept (PoCs) incorporating machine learning for Samsung Galaxy Phones and Wearables.
- Researched, developed, and integrated machine learning algorithms to enhance device connectivity and seamless user experience.
- Identified, analyzed, and resolved critical software bugs, ensuring 100% crash-free stability in Controller and Utility apps across pre-market and post-release phases.
- Authored UML design documentation (class and sequence diagrams) used by 10+ engineers to support scalable development of applications such as Flashlight, Siren, and Compass.

Intern, New Technology Systems Limited – Chattogram, Bangladesh Feb 2022

- Practical experience working with Oracle databases.
- Acquired in-depth knowledge of SQL.


Research Experience

Under Graduate Thesis Work:

Blockchain Enabled Healthcare System Using InterPlanetary File System  **Code**  **Report**

- Built a decentralized healthcare application using **Solidity (Ethereum)**, **IPFS**, **React.js**, and **Node.js** to ensure secure data sharing.
- Designed smart contracts for transparent, tamper-resistant patient–doctor interactions and integrated distributed storage for medical records.

Projects

Automated Hyperparameter Optimization of Convolutional Neural Networks using Optuna  **Code**

- Designed and implemented an automatic hyperparameter search framework using **Optuna** to optimize architectures and training hyperparameters (learning rate, dropout, number of filters) for CNNs, achieving improved validation accuracy and reduced tuning time.
- **Tools Used:** Python, PyTorch / TensorFlow, Optuna, NumPy, Pandas

Fine-Tuning Deep Convolutional Features via VGG16 for Efficient Image Recognition

[🔗 Code](#)

- Fine-tuned the pre-trained **VGG16** network on domain-specific datasets, adjusting top layers and applying transfer learning to increase classification accuracy under limited data settings.
- Conducted ablation studies on learning rates, regularization, and layer freezing to identify the optimal fine-tuning scheme.
- **Tools Used:** Python, Keras / TensorFlow, OpenCV, scikit-learn

Deep Learning Based Object Localization using OpenCV & CNNs

[🔗 Code](#)

- Developed a pipeline for object localization by combining CNN-based detection with OpenCV for bounding-box extraction and post-processing.
- Evaluated CNN architectures and optimized for accuracy vs inference speed.
- **Tools Used:** Python, OpenCV, TensorFlow / PyTorch, scikit-image

Action Detection from Video

[🔗 Code](#)

- Implemented video-based action detection using frame-level feature extraction and temporal modeling (LSTM) to detect and label actions in video streams.
- Addressed challenges such as varying video lengths, class imbalance, and real-time performance constraints.
- **Tools Used:** Python, OpenCV, PyTorch / TensorFlow

Sentiment Analysis with BERT

[🔗 Code](#)

- Fine-tuned **BERT** for sentiment classification on text datasets, achieving strong F1 and accuracy scores.
- Tackled class imbalance, experimented with learning rates, batch sizes, and applied data augmentation.
- **Tools Used:** Python, HuggingFace Transformers, PyTorch, Pandas

PDF Reader Agent

[🔗 Code](#)

- Built an intelligent agent that parses PDF documents (text, tables, images) and answers user queries by extracting and summarizing content.
- **Tools Used:** Python, Langchain, PyPDF2

Next Word Predictor

[🔗 Code](#)

- Developed a predictive text model (n-gram, RNN, Transformer-based) that suggests next words given a sequence, evaluated with perplexity and top-k accuracy.
- Experimented with embeddings, smoothing, and context length to improve prediction quality.
- **Tools Used:** Python, TensorFlow / PyTorch, NumPy

Deep Convolutional GAN (dcGAN)

[🔗 Code](#)

- Implemented **dcGAN** for image generation tasks, training generator and discriminator networks with alternating optimization.
- Experimented with normalization, activation functions, and stabilization techniques to improve image realism.
- **Tools Used:** Python, PyTorch / TensorFlow, NumPy, Matplotlib

Healthcare App (Blockchain)

[🔗 Code](#)

- Built a decentralized healthcare web app using **Solidity (Ethereum)** and **IPFS** for secure, tamper-proof medical record storage and sharing.
- Developed a **React.js frontend** with Web3 wallet integration (MetaMask) for smart contract interaction; deployed demo on Netlify.
- **Tools Used:** Solidity, Ethereum (testnet), React.js, JavaScript, IPFS, Node.js, Web3/Ethers, Netlify

Skills

Languages: Java • Kotlin • Python • JavaScript • C/C++ • Dart

Frameworks & Libraries: Scikit-learn • TensorFlow • PyTorch • React • Node.js • Express • Flutter

Tools & Technologies: Git/GitHub • AWS • MySQL • MongoDB

Certifications

Machine Learning

Certificate

- Learned the fundamental ideas of Hypothesis, Cost Function, and Gradient Descent.

Neural Networks and Deep Learning

Certificate

- Implemented ANN from scratch, including the entire Backpropagation process.

Improving Deep Neural Networks: Hyperparameter Tuning

Certificate

- Learned different scenarios in deep learning projects and logical steps to take.

Convolutional Neural Networks

Certificate

- Learned basic structures of CNN and implemented Object Detection from scratch.

Standardized Tests

- IELTS - 6.5
- GRE - 305 (Quant: 160)

Awards & Scholarships

- **Excellence Award** - Samsung Research and Development Institute (2024)
- **Passed Advanced Machine Learning Test** - Samsung Research and Development Institute (2025)
- **Academic Scholarship** - Awarded for ranking in the top 20% of students in each semester at Chittagong University of Engineering and Technology (CUET)
- **Government Scholarship** - SSC (2014) and HSC (2016)

Leadership & Extracurricular Activities

- **Programming Coordinator** - CUET Computer Club
- **Finance Secretary** - Joyoddhoney, CUET
- **Finance Secretary** - Chittagong Students Forum
- **Volunteer** - National Collegiate Programming Contest (NCPC), CUET (2017)