

# Sabbir Ahmed Saqlain

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LeetCode: [leetcode.com/u/Saqlain\\_Ahmed](https://leetcode.com/u/Saqlain_Ahmed)

## Objective

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Design and develop intelligent, secure, and scalable AI systems by integrating iOS development expertise with research experience in cryptography, blockchain, and machine learning. Seeking an AI/ML Engineer role to apply deep learning, model optimization, and secure computing techniques in building reliable and privacy-preserving intelligent solutions.

## Education

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### New Jersey Institute of Technology (NJIT)

Jan 2023 – Dec 2025(expected)

Newark, NJ, USA

Master of Science in Computer Science (GPA: 3.92/4.0)

**Thesis:** Cloud Data Security, Advanced Machine Learning and Blockchain

**Coursework:** Data Structures and Algorithms, Cryptography, Big Data, Machine Learning, Advanced Machine Learning, Trusted Computing & Architecture

### Rajshahi University of Engineering and Technology (RUET)

Jan 2015 – Aug 2019

Rajshahi, Bangladesh

Bachelor of Science in Computer Science and Engineering (GPA: 3.48/4.0)

**Coursework:** Computer Security, Data Structures and Algorithms, Data Mining, Neural Networks, Database Systems, Software Engineering

## Research Projects

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### Predicting ED Patient Outcomes (MIMIC-IV ED) | NJIT

Jan 2024 – Dec 2024

- Built an end-to-end ML pipeline to predict ED patient mortality using MIMIC-IV data
- Performed data cleaning, feature engineering, and cohort clustering (PCA + K-Means)
- Trained and benchmarked classifiers; selected Random Forest achieving ~97% accuracy
- Addressed class imbalance with SMOTE and used SHAP for model interpretability
- Provided insights to support early-risk triage and clinical decision making.

### Retrieval-Augmented Generation (RAG) System

Dec 2025

- Built a local RAG pipeline using Ollama + Llama 3.1 (8B) with FAISS vector search
- Implemented PDF/TXT/MD ingestion, text chunking, and semantic retrieval with nomic-embed-text embeddings
- Developed a FastAPI service for context-aware question answering using retrieved document chunks.

### Hybrid Blockchain Access Control System | NJIT

Jan 2023 – Dec 2025

- Designed a hybrid blockchain–cloud storage architecture for supply chain data
- Implemented decentralized access control with real-time revocation

- Enhanced scalability for ML-driven analytics over encrypted datasets
- Tools: Ethereum, Hyperledger Fabric, MySQL, Docker, AWS

### Malicious Android Application Detection

IEEE 2019

- Published an IEEE paper on efficient detection of malicious Android applications using machine learning
  - Classification algorithms to analyze permission patterns and app behaviors
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- Improved detection accuracy and explainability of model predictions.
  - Tech: Python, Scikit-learn, Pandas, Android API

## Experience

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### Optimely — Software Engineer II (iOS)

Sep 2022 – Dec 2022

- Delivered a B2B commerce mobile application
- Collaborated with analysts to ensure compliance and secure architecture
- Testing, documentation, and user support
- **Tech Stack:** iOS, Xamarin, C#.

### UAPY – UCB Fintech Company Ltd. — Software Engineer (iOS)

Jul 2021 – Aug 2022

- Developed a financial services app (1M+ active customers) with strong authentication and secure payment protocols
- Integrating ML-based face detection
- Implemented cryptographic data protection mechanisms to secure user transactions

### Brain Station 23 — Associate Software Engineer (iOS)

Sep 2019 – Jul 2021

#### Citytouch ( The City Bank Limited)

- Refactored code with enhanced encryption for secure transactions
- Rewriting ~40% of Objective-C codebase to improve stability and scalability

#### UNET Enterprise Banking (UCBL)

- Enterprise banking solution for corporate clients
- Implementing secure transaction flows and backend with secure REST API integration

#### UCB UNET (UCBL)

- Developed a retail banking app integrating custom secure authentication modules
- Custom design pattern for efficient UI/UX performance

#### AB Direct Internet Banking (AB Bank)

- iOS app in Objective-C using the MVVM design pattern
- Secure REST APIs for backend connectivity

#### Modhumoti Digital Banking

- MVVM design with XIB-based custom UI components
- Secure REST APIs for real-time account services

**Tech Stack:** Swift, Objective-C, MVVM/MVVM-C, REST APIs, WebRTC, WebSocket

## Skills

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- AI & ML: Supervised Learning, Deep Learning, Model Optimization, CoreML, TensorFlow Lite, Scikit-learn
- Cryptography: Symmetric/Asymmetric Encryption, Key Management, Access Control, Secure Multi-Party Computation, Cloud Security, Authentication Protocols, Mobile Security
- Programming: C/C++, Python, Go, Swift, Objective-C
- Blockchain & Distributed Systems: Ethereum, Hyperledger Fabric, Consensus Protocols
- Tools: GitHub, GitLab, Docker, AWS, Agile/Scrum

## Others

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**AI Text Recognizer**  ([iOS App in App store](#)) **Jan 2022 – Ongoing**

- Built an iOS app for real-time handwriting/printed text OCR using Vision/CoreML
- Supports multi-language recognition and quick export
- Published and maintained on the Apple App Store

**Live Face Detection Library** **Aug 2022**

- Developed a live face detection module for customer registration using CoreML
- Collected and labeled a custom dataset to train an on-device CoreML model
- Trained and optimized the model for real-time performance and accuracy
- Integrated the trained model into an iOS application for seamless user verification during registration

**Research Publication:** IEEE- Malicious Android Application Detection Using ML **Aug 2019**  
**Internship:** Microsoft Young Bangla **Apr 2018(3 Days)**  
**Hobbies:** Cybersecurity research, Capture the Flag (CTF) challenges