

# Syed Mehedi Hasan Nirob

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Prospective MS Student | Software Engineer

## SUMMARY

I am a prospective PhD Student for Fall 2026 with 7 years of full-stack software engineering experience building AI products and modern web/mobile applications. I am the founding engineer of [Retune](#), have worked at multiple startups, and led the engineering team. My research interests lie in the area of AI, Big Data and Software Engineering, supported by my strong engineering background.

## EDUCATION

### Bachelor's degree in Computer Science

Shahjalal University of Science and Technology

2013-2017

CGPA - 3.53/4.00

## PROFESSIONAL EXPERIENCE

### Re:cruit ([recruit.so](#))

2024-Current

Senior Software Engineer

Developed and managed these AI apps using JavaScript frameworks -

- **Hybrid**([hybrid.fly.dev](#)): Built the workout generator AI chatbot, community/group chat, and UI both for mobile and web.
- **Awaken**([awaken.is](#)): Managed the engineering team, built the mobile app with Expo, and played a key role in landing the first paying customer.
- **Sierra Romeo**([sierraromeo.ai](#)): Worked on database schema, server functions, and AI agent logic.

### Re:tune ([retune.so](#))

Founding Engineer

2023-2024

- Managed the engineering team and scaled it to **20,000** users. Took demo calls for potential users, created a Discord community, and gave technical support. Created product videos on [YouTube](#).
- Implemented core features like embedding to train AI chatbots with data, showing responses using AI models(from OpenAI, Anthropic, Google, etc), capturing info, storing data in the cloud etc.

### Replio (YC S21 - [replio.app](#))

Software Engineer

2021

- Joined Replio right after the founders got into [YC](#), and built the MVP for Replio, a visual React application builder for Shopify.
- Developed core application parts, including visual editor, drag-and-drop features, and CRM integration with Shopify. Made the product more stable and helped scale it up at an early stage.

### Gerald (YC W21 - [joingerald.com](#))

Software Engineer

2022

Redesigned the mobile app UI for Android and iOS and added a few features, which increased app installation by **20%**.

### AlgoMatrix

App Developer

2018-2020

Developed an iOS content aggregator app from scratch, and the app was approved for the iOS App Store. Designed and implemented RESTful APIs to serve content to the mobile/web app.

## RESEARCH WORKS AND PUBLICATION

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1. My final year thesis was about the question-answering system. Mainly worked on question classification and Wikipedia data scraping using **JAVA**. I categorized factoid questions into some predefined coarse-grained categories with SVM. **Publication:** Nirob, S. M. H., Nayeem, M. K. & Islam, M. S. (2017a). Question classification using a support vector machine with hybrid feature extraction method, 1–6. <https://doi.org/10.1109/ICCITECHN.2017.8281790>
2. Handcrafted Feature Fusion for Reliable Detection of AI-Generated Images (In progress) - Conducted a large-scale evaluation of handcrafted visual descriptors (HOG, LBP, DCT, GLCM, Wavelet) for detecting synthetic images; demonstrated that feature fusion with LightGBM achieves strong calibration and interpretability. <https://doi.org/10.48550/arXiv.2601.19262>
3. Whitespaces Don't Lie: Feature-Driven and Embedding-Based Approaches for Detecting Machine-Generated Code (In progress) - Developed and compared interpretable, feature-based detectors and CodeBERT embedding models for distinguishing human vs. AI-generated code, achieving a great ROC-AUC score and revealing structural code patterns as key discriminators. **Code Language:** Python. <https://doi.org/10.48550/arXiv.2601.19264>

## PROJECTS

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- **Language Identification from Text Documents** - Machine learning techniques, such as Multinomial Naive Bayes and Logistic Regression, were applied to both character n-grams and word n-grams to train a system on the DSL dataset to predict language. [Github Link](#)
- **Assignment Management System** - In this web app, a teacher can create a simple MCQ assignment with results, and students can submit and get evaluated instantly. [Github Link](#)
- **News Trends on Bangla Newspaper** - This project is about a model that uses statistical analysis to extract trending topics from Bangla Newspaper. Used **Python** language to plot trending topic graphs over time. [Github Link](#)
- **10xlaunch** - Identifies website visitors and enriches their profiles, and sends lead data to Slack, so businesses can take immediate action. It was named Product of the Day and Week on [Product Hunt](#). It has gained **1K** sign-ups, with **500** successful website installations, and generated **14,000** leads.
- **Osmind** (YC S20) - Refactored and modernized the clinic portal. Modularized and reorganized the frontend codebase. Created a component library to be reusable throughout the codebase.
- **Jetson** (jetsonworkforce.com) - Built the MVP for Jetson from scratch as the only full-stack engineer
- **Android ECG** - It's a prototype Android app for monitoring ECG signals. This app receives n-channel random signal from Arduino via Bluetooth and displays dynamic graphs. [Github Link](#)

## TECHNICAL SKILLS AND ACTIVITIES

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- **Programming Language and Technologies:** Python, C/C++, JAVA, JavaScript/TypeScript, NextJS, React, React Native, Swift, Objective-C, Google Cloud Platform (GCP), Docker, Matlab, C#
- **Expertise:** Algorithm, Data Structure, Machine Learning, Database, Competitive Programming
- **Competitive Programming**
  - Solved 1000+ programming problems from different online judges like [UVA](#), LightOJ, SPOJ, [Codeforces](#), etc.
  - Participated in 10+ national-level programming contests, including 2 ACM ICPC regional.

## TEST SCORES

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- **TOEFL** - 99 (R-22, L-26, S-25, W-26)
- **GRE** - 311 (Verbal-154, Quant-157, AWA-3)

## RESEARCH INTEREST

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Artificial Intelligence, Software Engineering, Big Data Analytics, Human-Computer Interaction