Md. Nafiu Rahman

Md Nafiu Rahman | NafiuRahman77 | nafiu.rahman@gmail.com | nafiurahman77.github.io | +8801933002218

Education

Bangladesh University of Engineering and Technology Feb 2020 – Mar 2025
Bachelor of Science in Computer Science and Engineering *(CGPA: 3.81/4.00 (3.94 in final year))*

Notre Dame College 2017 – 2019
Higher Secondary Certificate *(GPA: 5.00/5.00)*

Birshreshtha Noor Mohammad Public College 2015 – 2017
Secondary School Certificate *(GPA: 5.00/5.00)*

Skills and Interests

Research Interests:
Software Security: Secret Detection using regex and Large Language Models (LLMs) and vulnerability analysis
Bioinformatics: Brain aging prediction, Multimodal age prediction techniques
Deep Learning: Transformer-based architectures, Generative models, Feature selection strategies
LLM: Fine Tuning models like BERT, RoBERTa, LLAMA, Mistral, Zero shot and Few shot Prompting

Languages:
Proficient in English, native speaker of Bengali.

Technical Skills:
Data Science & Machine Learning: Python, Microsoft Excel, NumPy, scikit-learn, Pandas, PyTorch, Torchvision, TensorFlow
Database Design & Operation: PostgreSQL, PL/pgSQL, MongoDB, Firebase Firestore
Full-Stack Development: Web back ends with Node.js; Front ends with HTML/CSS, ReactJS, Svelte; Flutter (cross-platform mobile apps)

Programming Languages:
Proficient in C/C++, Python, Java, JavaScript/TypeScript, PHP, Bash, and Dart.

Coursework

Data Structure and Algorithms, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Software Engineering, Information System Design, Database, Computer Networks, Computer Security

Research Experience

Secret Breach Prevention in Software Artifacts

- Conducted research under the supervision of Dr. Rifat Shahriyar (Professor, BUET) as part of undergraduate thesis, focusing on preventing secret breaches in software issue reports.
- Utilized pre-trained language models (BERT, RoBERTa) and regex-based detection techniques to mitigate secret breaches.
- Developed a tool for detecting secrets in issue reports and conducted a user survey to evaluate its effectiveness.

Secret Detection in Source Codes Using Large Language Models

- Working under the supervision of Dr. Rifat Shahriyar (Professor, BUET) on secret detection in source codes using LLMs.
- Exploring zero-shot, few-shot, and fine-tuning approaches on LLMs like LLAMA and Mistral to improve detection accuracy.

Brain Age Estimation from MRI Data

- Conducting research on brain age estimation under the supervision of Dr. M Sohel Rahman (Professor, BUET).
- Employing Vision Transformers (ViT) for feature extraction from 2D slices of brain MRI scans.
- Incorporating demographic attributes like gender into prediction models to enhance brain age estimation accuracy.

Achievements

- Selected in Top 10 Team in Robi Datathon 2024
- Achieved Dean's List award in BUET for academic excellence

Projects

BusBuddy *Technologies: Flutter, NodeJs, PostgreSQL, Firebase, Git*
Android app for BUET providing ticketing, schedules, bus tracking, and real-time updates for users, teachers, and bus staff.

Nishorgo *Technologies: JavaScript, HTML, CSS, PHP, MySQL, Git*
E-commerce site for plant sales with filtering, cart, admin analytics, and order management.

Compiler *Technologies: C, C++, Lex, Yacc, 8086-Assembly*
Subset of a C compiler with loops, branching, recursion, and intermediate code generation. Implemented lexer, parser, and code generator.

Catch the Egg *Technologies: OpenGL, C++, Igraphics*
Game using Igraphics for catching falling eggs, with scoring and difficulty levels. Solely implemented all game features.