

Iftekhar Hakim Kaowsar

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RESEARCH INTEREST

I like to indulge in analytical thinking and finding solutions of complex problems. I am interested in research on security, cryptography and theoretical computer science. Hence I am looking for relevant Ph.D. positions and would love to contribute from the start.

EDUCATION

- **Bangladesh University of Engineering and Technology**
Graduated, Bachelor of Science in Computer Science and Engineering. **CGPA: 3.95 (Top 5%)** *March. 2018 – May 2023*

RESEARCH EXPERIENCE

- **A New Approach to Parameterized String Matching with Fixed Mismatch Tolerance**
Undergraduate thesis work, paper in submission

In this work, an efficient solution to find matching locations between parameterized text and pattern with fixed mismatch tolerance. Two solutions have been introduced – one for unit tolerance value, one for the generic case. For the first one, we solved it by using Segment Tree data structure, hashing and some insightful observations for transformation of string. For the later, we improved previously known matching solution by incorporating Fast Fourier Transform (FFT). Our solution is also parallelizable on multi-core machine and does not depend on value of tolerance.

 - **Field:** Theory
 - **Supervised by:** Prof. Dr. M. Sohel Rahman

JOB EXPERIENCE

- **PriyoSys Ltd** Dhanmondi 7A, Dhaka
Fullstack Software Engineer *June 2023 - Present*
 - **Project PriyoPay (<https://pay.priyo.com>):** A fast-growing Fintech startup which provides US bank account, BDT wallet and Mastercard usable to pay and transfer money between US and Bangladesh. This software has a large user-base in US and Bangladesh with average \$50,000 daily transaction. I have written ~25% of the full codebase. Stack includes Django, NextJS, ReactJS, Postgres, Docker, Jenkins, Redis. Involvements:
 - * Designing system and implementing core features like different type of transactions, fee handling, system-external payments (card), referral system, KYC process, analytics etc. in both Backend and Frontend with an agile development team.
 - * Led on designing and implementing a microservice that backs the full BDT wallet, USD to BDT conversion and withdrawal to local banks in Bangladesh. This includes building account ledgers, real time conversions, asynchronous transfers, batch payments, regular settlements, internal head account management etc. This also includes a banking gateway where local banks can push funds to the wallet, upon proper authentication.
 - * Designing and implementing 7 third-party API integrations, such as KYC providers, National ID server, multiple Banking as a Service (BaaS) platforms etc.
 - * Frequently involved in deployment process, in addition to building staging servers, writing pipelines for CI/CD process via Jenkins and managing cloud services at Google Cloud Platform (GCP) in a cost-effective manner.
- **Bangladesh University of Engineering and Technology**
Competitive Programming Coach (Part time) *May 2023 - April 2024*

HONORS

- Ranked 50 (3rd in Asia-West region), [45th ICPC World Finals, Dhaka, 2021](#)
- Ranked 36 (5th in Asia-West region), [47th ICPC World Finals, Luxor, 2023](#)
- Dean's award and merit scholarships, every undergraduate academic year.
- First Bangladeshi to be in top 3 of a Codejam [round](#)
- Top 500 in Meta Hacker Cup [2021](#), [2023](#)
- Member, Scientific and Technical Committee, Judge, Bangladesh Olympiad in Informatics, 2021-Present.
- International Master at Codeforces (max. Rating 2304). Handle: [Iftekhar_Hakim_K](#).
- Being a judge in more than 10 programming contests, including ICPC regionals and BDOI.

ACADEMIC PROJECTS

- [Shaako](#): A project for the ease and efficiency of community health working system in Bangladeshi rural areas. It has functionalities and analytics for organization managers, health workers and patients. Includes: React, React-native, Django REST framework, Postgres.
- [ESPNcrinfo](#): Web app for cricket updates. Includes: Django fullstack, Oracle.
- [Algorithm Simulator](#): Interactive simulation of different algorithms based on user input. Includes: Java, JavaFX.
- [Space Impact](#): A little game project with elementary C graphics library. Includes: C, i-graphics.

TECHNICAL SKILLS

- **Language**: C, C++, Java, Python, Typescript.
- **Database and Caching**: Oracle, Postgres, Mongo, Redis.
- **Framework**: Django REST, ReactJS, React Native, NextJS.
- **Hosting Platform**: Google Cloud Platform.
- **DevOps**: Docker, Jenkins.
- **Asynchronous Task Management**: Celery.