Md Atiab Jobayer **Purno**

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EDUCATION

National Institute of Technology, Tiruchirappalli

Bachelor of Technology

Computer Science & Engineering   **Jul 2020 – Jul 2024**

EXPERIENCE

Goldman Sachs

Summer Analyst   **May 2023 – Aug 2023**

- Implemented multithreading capability in an internal Kafka library for Java Spring Boot that increased the message processing performance up to 2.7 times.
- Prepared a robust testing suite using Apache JMeter to evaluate Kafka performance within microservices.

Samsung

PRISM Intern   **Sep 2021 – Feb 2022**

- Created an ML model to generate normal maps of the front and back of a human body from a single RGB image using GAN.
- Fixed the blur occlusion problem in the PiFuHD model by optimizing the convolution layers and extra data pre-processing, resulting in a 4% better accuracy.
- Samsung Research Institute, Bangalore supervised the project for the whole duration of 6 months.

NITT High Performance Computing Lab

Undergraduate Research Assistant   **Jul 2021 – Aug 2021**

- Formulated literature survey from around twenty existing research on image forgery detection if the objects haven't undergone any non-affine transformations and optimized the model during training up to 4% by hyperparameter tuning.

10 Minute School

Backend Application Developer Intern   **Apr 2018 – Aug 2018**

- Built an API backend for an online compiler to execute C, C++, and Python code in a sandboxed environment against given input and return output and served up to 1.8 million requests each day successfully.
- Built load balancer using NGINX and decoupled web server and compilation server for better fault tolerance and introduced a task scheduler to distribute compilation tasks among multiple servers for parallel processing.

HACKATHONS

TransfiNITTe – Intra NITT Hackathon   **Nov 2023**

- Ranked 2nd among almost 100 teams by crafting a Llama-2 based chatbot that bridges the communication gap between engineering and customer support teams in startups.
- Engineered a backend with Github webhook integration for continuous data scraping including issues, comments, release notes, etc. from a repository.
- Integrated Pathway persistent file system for real-time knowledge base update and Streamlit server to create a responsive chat interface.

Golden Jubilee IoT Hackathon   **Oct 2021**

- Ranked 4th among 350 teams by developing a cross-platform app using Flutter and an ESP-32 library using C++ for transmitting smartphone accelerometer, gyroscope, and proximity sensor data to ESP-32 microcontroller conveniently with a 60Hz transmission rate.

PROJECTS

Gonitzoggo   **Oct 2017 - Present**

- Developed an online judge for math Olympiad enthusiasts in Bangladesh using the PHP CodeIgniter framework. The platform has 25K+ users now. It is currently the largest math problem portal in Bangladesh.
- Improved the system's scalability by incorporating Redis-based caching, reducing database queries significantly. It allowed the platform to distribute across multiple app nodes, enhancing overall performance. Besides, set up cronjobs for the asynchronous execution of time-consuming tasks in high-traffic sections.
- Streamlined CI/CD pipeline on GitHub, covering testing, releasing, and automatic deployment. Performed load balancing and automated deployment using Kubernetes on every release through GitHub Actions.

Centralized Power Cluster Home Automation   **Sep 2022 – Dec 2022**

- Automated the operations and billing for a power cluster in Silchar, Assam, comprising 200 homes, utilizing smart switches, smart power meters, and a centralized Flutter app which lets users control electrical switches while administrators gain the ability to manage any switch and observe power consumption in any home at any time.
- Modified proprietary smart switches by flashing them with open-source firmware Tasmota, allowing their telemetry data transmission and receiving control commands via MQTT protocol.
- Composed a Linux system application working as a middleware using Dart to relay MQTT payloads to the backend server, leveraging Dart isolates for efficient multithreading to handle up to a thousand MQTT connections simultaneously.

ICPC Resolver Clone   **Mar 2022**

- Developed an ICPC Resolver clone using TypeScript and Svelte, enabling real-time leaderboard updates with visually appealing animations for pending submissions by parsing JSON data to process the submission queue sequentially.

SKILLS

Languages: C, C++, Java, PHP, JavaScript, Python, Go, Dart

Frameworks: CodeIgniter, Spring Boot, Flutter, jQuery

Database: MySQL, SQLite, Firebase Cloud Firestore

Other: Data Structure, Algorithms, Git, CI/CD, GitHub Actions, Docker, Apache Kafka, Redis, Kubernetes

Design Patterns: MVC, MVVM

Miscellaneous: Linux, Semantic Versioning, LaTeX

English Language Test: IELTS (7.5/9.0)