Rafsun Jany Arman

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Summary

Experienced and adaptable Full Stack Software Engineer with a fervor for crafting scalable and intelligent applications. Proficiently skilled in Java, Python, Angular, and Machine Learning, adeptly designing resilient backend solutions, constructing dynamic user interfaces, and formulating machine learning models. Capable of steering cross-functional teams and delivering top-notch software solutions. Proactively keeps abreast of cutting-edge industry trends.

Core Competencies

- Software Development
- Machine Learning
- Full Stack Expertise
- Dynamic UI Design
- IoT
- Scalable Solutions
- Agile Development
- Trend Awareness

Experience

Selise, Dhaka, Bangladesh
Software Engineer, Full-Stack development & IoT   **Feb 2022 - Present**
- Extended ThingsBoard, integrating Postgres DB, TimescaleDb, and Git Actions for streamlined CI/CD.
- Implemented Mbus decoder for improved data decoding on the backend and frontend.
- Designed rule nodes (e.g., Loriot, MBUS, SOAP) enhancing functionality on both ends.
- Engineered premium features in the backend for increased product value.
- Optimized time-series data handling and PostgreSQL queries for dashboard enhancement.
- Introduced a versatile export system for mobile and web platforms.
- Developed WebSocket handler for real-time widget updates.
- Orchestrated Swisscom integration, extending platform connectivity.
- **Tech:** Java(Spring Boot), Python, Angular, PostgreSQL, TimescaleDB, IoT Protocols, K6, Flutter, D3JS

Creative Data Biz, Australia
Data Scientist Fellow, Researcher   **Oct 2021 - Jan 2022**
- Led digital twin framework for data-driven simulations.
- Analyzed data with Python for informed decisions.
- Developed predictive algorithms for real-world modeling.
- Optimized performance, and communicate insights effectively.
- **Tech:** Python

Govt. Technical School & College, Gopalganj, Bangladesh
IT Executive & Lecturer, Department of Computer Technology   **Mar 2019 - May 2021**
- Part-time lecturer of the Department of Computer Technology.
- Managed websites, ensuring optimal functionality and UX.
- **Tech:** HTML, CSS, JS

Frostcherry IT & Software Solution, Dhaka, Bangladesh   **Jan 2019 - Mar 2019**
Intern Software Engineer
- Interned, and crafted restaurant management system using HTML, CSS, JS, PHP, and SQL.
- Designed user-friendly front-end and robust back-end functionalities.

Publication

Fish Classification using Saliency Detection Depending on Shape and Texture: Computación y Sistemas, 2022
- Utilized U2-net for preprocessing to obtain shaped and colored background-free images.
- Applied Histogram of Oriented Gradient (HOG) for feature extraction.
- Achieved 99.77% accuracy in the first ensemble and 100% in the second ensemble on a dataset of 2678 fishes across five classes.
- **Tech:** Python, Tensorflow, Machine Learning, Deep Learning

Fish Observatory and Census System (FOCS): IC4IR-2021
- Automated fish processing and packaging, alleviating industry gaps.
- Enhanced fish farming returns through efficient production.
- Streamlined oceanographic research processes, reducing complexity.

- Integrated innovative solutions including fish recognition tech and data collection, fostering growth in fish farming.

Parkinson Disease classification from handwriting: (yet to be published)
- Developed Parkinson's disease early identification using image analysis.
- Utilized inception_v3 and densenet121 as feature descriptors.
- Achieved high accuracy:
    - → inception_v3: Up to 96.67% with densenet121.
    - → Various classifiers employed.
- Employed ensemble methods (Bagging and Voting) for improved accuracy.
- **Tech:** Python, PyTorch, Deep Learning, React (For mobile app)

Notable Projects

Bus-Mama: AI based Mobile-Application - GitHub
- Developed "Bus-Mama" app for real-time bus tracking at BSMRSTU.
- Solves bus timing issues for students with GPS-based tracking.
- Features Bengali Chatbot for bus-related inquiries.
- Utilizes TfidfVectorizer, SVM for language classification.
- Integrates hardware, software, and machine learning for IoT solutions.
- Achieves seamless communication using APIs and sockets.
- Employs Google Maps services for route display.
- **Tech:** Python, Machine Learning, Angular, ExpressJs

Fire-Free: IoT Hardware & Mobile-Application - GitHub
- Developed an app for firefighters, linking hardware and software.
- Notifies firefighters of emergencies, and displays victim locations.
- Challenges: IoT integration, PCB design.
- **Tech:** CPP, Angular, ExpressJs, Proteus

CanSat: IoT Hardware & Desktop-Application - YouTube
- Developed communication-based CanSat with XBEE and sensors.
- Created desktop ground station software for live satellite data display.
- **Tech:** C, Python

Sub- marine: IoT Hardware - YouTube
- Developed underwater surveillance drone for deep-sea monitoring.
- Utilized diverse sensors for effective underwater reconnaissance.
- **Tech:** C

House-Rent: Mobile-Application - GitHub
- Mobile app facilitating house rental searches and listings.
- Overcoming database integration and mobile design challenges.
- **Tech:** Angular, ExpressJs

Education

Bangabandhu Sheikh Mujibur Rahman Science & Technology University, Gopalganj, Bangladesh　　**2017 - 2023**
Bachelor of Science (Engg) - Computer Science & Engineering　　**CGPA 3.41**

Extra Curricular Activities
- **Contest:** Winner Mujib 100 Idea Contest in Top 100, 2021
- **Hackathon:** Honorable Mention in CanSat Competition, Bangladesh
- **Club Activities:** Trainer at Mechatronics Club, BSMRSTU
- **Campus Activities:** Campus Ambassador for Planeter Ltd, Bangladesh
- **Community Collaboration:** Each year, endeavor to instruct and engage in research within the community
- **Training:** On IOT at **BdOSN**, On DataScience and AI at **DataCamp**