

Md Ibrahim Khalil

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Summary

I am a dedicated Software Engineer with nearly 4 years of experience in Web Development, Data Engineering, and Machine Learning. Passionate about leveraging AI to enhance software engineering processes (AI4SE). Committed to advancing AI solutions for real-world software challenges through graduate studies.

Education

IIT, University of Dhaka	Dhaka, Bangladesh
<i>B.Sc. in Software Engineering, CGPA: 3.63/4.0</i>	Jan 2018 – Dec 2022
Relevant coursework: Software Design Patterns, Software Design and Analysis, database management system, Distributed Systems, Software Metrics, Software Security, Artificial Intelligence, Pattern Recognition and Image Processing, Machine Learning	

Experience

Cefalo Bangladesh Ltd.	Dhaka, Bangladesh
<i>Software Engineer</i>	July 2024 - Present
• Contributed to the development of a comprehensive decision-support tool, Wirescan Digital, aimed at optimizing power cable operation and maintenance with a focus on low risk, cost efficiency, and minimal labor requirements.	
• Led the creation of a client onboarding portal, automating cable and turbine data extraction from various file formats (PDF, CSV, Excel, etc.), reducing manual input by 90%.	
• Developed a cable journal feature, enabling users to view key cable health indicators at a glance for enhanced monitoring and decision-making.	
<i>Associate Software Engineer (Data Engineer)</i>	Jan 2023 - Jun 2024
• Developed data pipelines using Python, Airflow, and Kafka for a large-scale ETL system, improving the efficiency and scalability of data operations for a Norwegian client <i>Kontali</i> .	
• Automated testing and deployment processes using CI/CD pipelines, ensuring data flow reliability and continuous integration.	
• Collaborated with Data Scientists to fine-tune machine learning models and streamline data engineering processes for high-performance applications.	

Brain Station 23	Dhaka, Bangladesh
<i>Associate Software Engineer & Intern</i>	Jan 2022 – Dec 2022
• Developed a web-based table extraction application for medical diagnostics using Google's Document AI, improving data extraction accuracy.	
• Built backend services in Python and integrated React and PostgreSQL with NLP models for real-time insights.	
• Contributed to Machine Learning projects and collaborated on optimizing models with the R&D team.	

Selected Projects

LiDAR PointCloud Classification App	 code
• Developed a desktop application for classifying LiDAR point cloud data. The classifier will detect different objects in an interior room's point cloud scene and segment them into different colors.	
• Researched automatic classification techniques for LiDAR data, improving segmentation accuracy.	
• Tools Used: Python, Pytorch, Open3D, Pyside6	
Question Answering App	 code
• Developed a web-based quiz application featuring automated student response evaluation, powered by a BiDAF	

deep learning model trained on the SQuAD v2.0 dataset for context-based question answering.

- Tools Used: Python, Keras, Tensorflow, Flask, MongoDB

Table Extraction App

May 2022 - Aug 2022

- Table Extraction App is an web based application which can extract tables from Medical Diagnostic reports of LabAid and Popular Hospital. Users can view, edit and export the table data as excel and csv file format. App also shows the meaning of medical terms using the Healthcare Natural Language API of Google cloud.
- Tools Used: Python, Django, Swagger, Postgresql, React, Google Document AI

Distributed Ride Sharing App

 code

- Designed a scalable, microservice-based web application for ride-sharing, focusing on real-time data consistency and system scalability.
- Tools Used: Python, Flask, MongoDB, Docker, Nginx

TechGlimpse

 code

- Developed a full-stack platform for publishing technology articles.
- Tools Used: Typescript, Express, React, Redux, PostgreSQL, Sequelize, Jest, Docker

Mentorship & Teaching

Cefalo Bangladesh Ltd.

Dhaka, Bangladesh

Freshers Initial Trainer

July 2023 – Present

Mentored junior engineers in web development, focusing on HTTP, REST, clean code, unit testing, and software development best practices. Additionally, I conduct workshops on Data Engineering and CI/CD to improve team skills and promote continuous learning.

Technologies

Languages: Python, JavaScript, TypeScript, C++, Java

Data Engineering Tools: Airflow, SQL, Kafka, Postgres, Docker, Kubernetes (Kind)

Machine Learning Tools: PyTorch, TensorFlow, Scikit-learn, NLP, Open3D

Web Development: Stack (MongoDB, Express, React, Node.js), Flask, Django

Others: CI/CD Pipelines, Docker, Git, GitHub Workflow

Achievements

- **1st Runners-up**, App Development Competition, KUET BitFest (2019)
- **2nd Runners-up**, Hackathon, ITVerse 2.0 (2019)
- **Best Defender Award**, Intra-department Futsal Tournament, University of Dhaka (2019)

Co-Curricular

Enzyme, Bangladesh Biology Olympiad

Feb 2018 - Jan 2022

Volunteer, Dhaka University IT Society (DUTS)

Feb 2018 - Jan 2022

References

Dr. Ahmedul Kabir

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