Tareque Rahman Ornob

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📍 Shewrapara, Dhaka, Bangladesh

🌐 Portfolio

 GitHub

in LinkedIn

ABOUT ME

I am a Machine Learning Researcher and Java Developer, with a passion for combining cutting-edge technology and innovative ideas. With unique research papers in Biomedical Image Processing and work experience in Java Web Development, I am constantly seeking new opportunities to learn and grow, and contribute to the success of my team through hard work, attention to detail, and strong problem-solving skills.

PUBLICATIONS

- **Ornob, T. R.**, Roy, G. and Hassan, E. (2023) "CovidExpert: A Triplet Siamese Neural Network framework for the detection of COVID-19," *Informatics in Medicine Unlocked*, 37, p. 101156. Available at: https://doi.org/10.1016/j.imu.2022.101156.

- Emon, M. M., **Ornob, T. R.** and Rahman, M. (2022) "Classifications of Skull Fractures using CT Scan Images via CNN with Lazy Learning Approach," *Journal of Computer Science*, 18(3), pp. 116129. Available at: https://doi.org/10.3844/jcssp.2022.116.129.

- Emon, M. M., **Ornob, T. R.** and Rahman, M. (2022) "Predicting Skull Fractures via CNN with Classification Algorithms," *ICCA 2022: 2nd International Conference on Computing Advancements*. Dhaka, Bangladesh, March 10-12, 2022. New York, NY, United States: Association for Computing Machinery. Available at: https://doi.org/10.1145/3542954.3543017.

EXPERIENCE

- **Dynamic Solution Innovators Ltd.** *May 2023-Present*
  Junior Software Engineer Dhaka
  - Developed key components of KSS, a Ruby on Rails-based platform for National Board of Revenue (NBR), focusing on user engagement and knowledge exchange. Responsibilities encompassed building the authentication system, crafting question and answer features, and enabling user interactions like upvoting and following.
  - Developing key components of SmartRJSC, a Spring Boot based platform for Registrar of Joint Stock Companies And Firms (RJSC). Implemented company registration processes for two companies and introduced AOP for registration process. Integrated City Bank online banking for payment processing. Developed an automated employee sign-up system with email invitations and dynamic role management. Handled back-office admin functions, wrote data migration scripts, and conducted unit tests for concurrent data integrity.

- **Shahjalal University of Science and Technology** *February 2021 - Present*
  Machine Learning Researcher Sylhet
  - Work under the supervision of Moqsadur Rahman, Arnab Sen Sharma, and Enamul Hassan.
  - Provide technical leadership to three research groups.
  - Develop and implement new algorithms.
  - Maintain and manage research datasets.

PROJECTS

- **AbdomenExpert** *September 2022 - December 2022*
  Developer
  - A few-shot learning model combined with an Ensemble Learning technique to detect 9 types of abnormalities and normal cases from the abdomen CT scans. The model uses a training dataset of only 800 images.
  - Technologies: PyTorch, Torchvision, Scikit-learn
  - Code

- **CovidExpert** *July 2022 - December 2022*
  Lead Researcher
  - Proposed a Triplet Siamese Neural Network for COVID-19 detection from chest CT scans, outperforming all published models with 600 training CT scans. Successfully tested against the largest test dataset of 10152 CT scans.
  - Technologies: PyTorch, Torchvision, Scikit-learn, Tkinter
  - Interface Code

- **Image Caption Generator** *December 2022 - January 2022*
  Lead Developer
  - A framework that generates human-readable sentences from images using an encoder-decoder model. The input image is encoded into an intermediate representation and then decoded into a descriptive text sequence.
  - Technologies: Tensorflow, Scikit-learn, Flask
  - Model Code   Interface Code

- **E-learning Platform** *April 2022 - June 2022*
  Developer
  - An E-Learning Platform that allows college employees to manage courses online, including assessments and content creation, using OOP principles and GUI components for easy navigation.
  - Technologies: Java, JavaFX, SQL, Heroku
  - Code

- **Pharmacy Management System** *August 2022 - September 2022*
  Developer
  - A pharmacy management system that handles all necessary data for sustainable business operations. Enables efficient management of medicines, prescription distribution, and registration of new items.
  - Technologies: Java, JavaFX, SQL, Heroku
  - Code

- **Hostel Management System** *December 2020 - March 2021*
  Lead Developer
  - Cross-platform Hostel Management System for easy management of activities including user profiles, payment, and details of hostel students and employees. User-friendly and eliminates problems of manual management.
  - Technologies: Java, JavaFX, SQL, Heroku
  - Code

- **Doctors Portal** *May 2020 - April 2020*
  Developer
  - A website with patient and doctor roles that allows patients to book appointments with doctors, and doctors can take the appointments and prescribe the medicine for them.
  - Technologies: React, Node.js, MongoDB, Heroku, Firebase
  - Front-End Code   Back-End Code

- **Onion Restaurant** *March 2020 - April 2020*
  Developer
  - An online food ordering platform that allows customers to choose their desired dishes from an extensive menu and receive prompt delivery to their location after completing the payment process.
  - Technologies: React, Node.js, MongoDB, Firebase
  - Front-End Code   Back-End Code

EDUCATION

Shahjalal University of Science and Technology *February, 2018 - March, 2023*
B.Sc. (Engg.) in Computer Science & Engineering CGPA: 3.58

TECHNICAL SKILLS

Languages:	Java, Python, C, C++, Ruby, SQL, JavaScript, PHP
ML Libraries & Framework:	PyTorch, Tensorflow, Scikit-learn
Frameworks:	Spring Boot, Ruby on Rails, Tailwind CSS, Bootstrap, Flask, JavaFX
Database:	PostgreSQL, Oracle, MySQL
Others:	Docker, GIT, Linux, LaTeX, Hugo, Postman, AWS EC2, MiniTab

ACHIEVEMENTS

- **Problem-Solving:** Solved 500+ problems in various online judges (e.g., HackerRank, UVA), earned a certificate for the Advanced Problem Solving assessment test on HackerRank

- **Certificate of Reviewing:** Reviewed paper at Informatics in Medicine Unlocked and Journal of Computer Science

- **Black Belt Web Developer:** Completed Web Development course at Programming Hero being the top 5% in the batch

- **Certificate of Participation:** Presented paper at the 2nd International Conference on Computing Advancement

- **Open Source Software Development, Linux and Git Specialization:** Demonstrated a strong foundation for comfortably and productively working in open source development communities

- **Research:** Primary author in a prestigious journal (Informatics in Medicine Unlocked), ranked 22 in its respective field.