Md. Safirur Rashid

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About Me

A fresh graduate from the Islamic University of Technology. I'm a Computer Science major with a keen interest in Artificial Intelligence, Machine Learning, and Computer Vision. Computer Simulated Experiments, Image Processing, and Data Science are all topics of interest for me. I am eager to explore new tools and technology that have the potential to solve real world problems.

Education

Islamic University of Technology — Boardbazar, Gazipur
Bachelor of Science in Computer Science and Engineering — *Jan. 2018 – May. 2022*
- CGPA : 3.67 (Out of 4)

Bir Shreshtha Noor Mohammad Public College — Peelkhana, Dhaka
Primary, Secondary and Higher Secondary — *Jan. 2004 – Dec 2016*
- Higher Secondary Certificate, GPA - 4.92 (Out of 5)
- Secondary School Certificate, GPA - 5 (Out of 5)

Academic Research and Projects

Joint Pose Based Sign Language Translation Using Graph Convolutional Network | Dec 2020 – May 2022
- Collaborated with a team of 3 people, Supervised by Dr. Md. Hasanul Kabir.
- Extracting robust spatiotemporal features using Human Pose Estimations
- Feature extraction based on the pose estimation methods to be fed into Transformers.
- We improved the estimation accuracy of existing particular pose estimation models
- Explore a sign video segment representation to enhance detection accuracy of signs
- Primarily worked on the PHOENIX14T dataset
- Our Final Report File

Pathshala | *Flutter, Dart, Python, fast.ai, Tflite* | ⍉ — Oct 2021
- Collaborated with a team of 3 people.
- Developed a mobile application with Flutter for kindergarteners to learn how to write Bangla and English letters.
- The app lets the children draw the letters freely and uses Deep leaning to check if the writing is correct.
- Contributed on the Deep learning side and created six different models for the recognition task.
- Used the fast.ai library for training and exported the models to tflite files to be used in the main Flutter app.
- All six models used in the app has the primary architecture of MobileNetV3.

MinuteShazam | *Python, Octave, Numpy, Scipy* | ⍉ — Feb 2021
- Collaborated with a team of 3 people.
- Recreated the primary algorithm that mimics the workflow of the popular music identifying software Shazam.
- Research and prototype implementation done with Octave.
- Currently implementing the algorithms in Python and we plan to deploy the app via Streamlit.

Travelhacks | *Python, Django, Jinja, HTML, CSS, Oracle Database* | ⍉ — July 2020 – Sept 2020
- Collaborated with a team of 3 people.
- Developed a full-stack web app with Django and Oracle on backend with basic HTML and CSS on the frontend.
- Created User sign up and log in feature with a user-friendly password recovery system via Gmail.
- Set up User profile pages with profile pictures and added post writing privilege to Signed in users only.
- Used Django superuser features for overlooking posts from backend.
- Deployed our web application on pythonanywhere.com (travelhacks101.pythonanywhere.com).

Blood Bank | *Java, Swing, Oracle, PL/SQL* | ⍉ — Sep 2020
- Collaborated with a team of 3 people.
- A blood bank management system for users and admins.
- Applied PL/SQL inside java to fetch different queries from the Database.

CERTIFICATIONS

Data Science Bootcamp | *by Upskill [Verify]*	Dec 15, 2021
Deep Learning Specialization | *by Deeplearning.ai [Verify]*	Nov 22, 2020
Simulation and modeling of natural processes | *by University of Geneva [Verify]*	May 19, 2020
Machine Learning | *by Stanford University [Verify]*	Apr 22, 2020

VOLUNTEER EXPERIENCE

Software and Image Processing Team Member 2019 – 2022
IUT Mars Rover- Team Avijatrik *Boardbazar, Gazipur*
- Held a volunteer position as a software engineer from 2019-20 and currently part of the Image Processing team.
- Developed a REST API using Flask and MySQL to store data gathered by our rover from field.
- Developed a soil classification model using Image Processing and Deep Leaning.

ACHIEVEMENTS

MIST Inter-University ICT Innovation Fest - 2021 Dec 11, 2021
Hackathon (Education Category) - Team Pathshala [Verify] *Boardbazar, Gazipur*
- We secured 3rd position amongst the teams in the Hackathon for the Education Category.
- Our team achieved an honorable mention overall for deploying our Deep learning models on the client side device.

International Rover Design Challenge 2021 Sept 06, 2021
IUT Mars Rover- Team Avijatrik [Verify] *Boardbazar, Gazipur*
- We secured 11th position among the total of 32 teams in terms of overall performance, innovative execution and total score points.
- We were the only team from Bangladesh to achieve such a front line position in the competition

TECHNICAL SKILLS

Languages: Python, GNU Octave, Julia, LaTeX, C/C++, SQL(Oracle), MySQL, Java, HTML/CSS
Libraries: Pandas, NumPy, Scipy, OpenCV, Matplotlib, Plotly, PyQt5
Deep Learning: PyTorch, PyTorch Lightning, Scikit-Learn, Tensorflow
Frameworks: Streamlit, Django, Flask, Weights and Biases
Developer Tools: VS Code, PyCharm, IntelliJ, Git, GitKraken, GeoGebra, Lyx, Overleaf, Oracle SQL Developer