SHAKIL MAHMUD SHUVO

(+880) 1671977294 | sshuvo.cse@gmail.com

ShakilMahmud | ShakilMahmudShuvo

Rampura, Dhaka, Bangladesh

Education

- **Rajshahi University of Engineering & Technology** *Jan 2018 - Sep 2023*
  Bachelor of Science, Computer Science & Engineering Rajshahi, Bangladesh
  - CGPA: 3.22/4.00 (Last 60 credit average: **3.71**)
  - **Relevant Coursework:** Applied Statistics and Queuing Theory, Digital Image Processing, Neural Networks, Artificial Intelligence, Data Mining, Discrete Mathematics, Database Systems, Object-Oriented Programming

- **Notre Dame College** *2017*
  Higher Secondary Certificate Dhaka, Bangladesh
  - GPA: 5.00/5.00

Research Interests

Computer Vision, Natural Language Processing, Medical Imaging, Large Language Models, Computer Security, Multimodal Learning, AI for Healthcare

Research Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[C.1] **S.M. Shuvo**, et al. "Early Detection of Suicidal Ideation Using Bidirectional GRU and Language Models." In *Proceedings of the 3rd International Conference on Computing Advancements (ICCA)*, 2024, pp. 482-490.) *First Author*. [DOI]

[C.2] **S.M. Shuvo**, et al. "Multi-class Brain Tumor Classification with DenseNet-Based Deep Learning Features and Ensemble of Machine Learning Approaches." In *Proceedings of the 2nd International Conference on Big Data, IoT and Machine Learning*, 2023, pp. 559-573. *First Author*. [DOI]

[C.3] Navia Novely, **S.M. Shuvo**, and Md. Farukuzzaman Faruk. "Improving Pre-Trained CNNs with CBAM and Skip Connections for Multi-Class Retinal Diseases Classification using OCT Images." In *Proceedings of the 3rd International Conference on Computing Advancements (ICCA)*, 2024, pp. 946-953. *Second Author*. [DOI]

[C.4] Soumit Das, Md. Farukuzzaman Faruk, **S.M. Shuvo**, et al. "Advancing Glioma Segmentation: A Robust 3D Residual Attention U-Net Framework for Multimodal MRI Images." In *Proceedings of the 3rd International Conference on Computing Advancements (ICCA)*, 2024, pp. 978-985. *Third Author*. [DOI]

[C.5] Anirban Barai, Md. Farukuzzaman Faruk, **S.M. Shuvo**, et al. "A Late Fusion Deep CNN Model for the Classification of Brain Tumors from Multi-Parametric MRI Images." In *Proceedings of the 2023 International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM)*, 2023, pp. 1-6. *Third Author*. [DOI]

[C.6] T.I. Sajon, B. Roy, Md. Farukuzzaman Faruk, A.Y. Srizon, **S.M. Shuvo**, et al. "Attention Mechanism-Enhanced Deep CNN Architecture for Precise Multi-class Leukemia Classification." In *Proceedings of the 2nd International Conference on Big Data, IoT and Machine Learning*, 2023, pp. 349-361. *Fifth Author*. [DOI]

Work Experience

- **Cognitus Consulting LLC** *Sept 2024 – Present*
  Associate Data Scientist Dallas, TX (Remote)
  - Contributed to the design and implementation of LambdaX, an AI-powered contract management platform, for clients including Lockheed Martin.
  - Developed LLM-powered workflow generation system using MCP server-based architecture, enabling automated workflow creation via chatbot interface.
  - Built and maintained scalable ETL pipelines for contract data from SAP, Salesforce, and internal systems.
  - Automated contract lifecycle processes using AI-based document processing, reducing manual review time.

- **IdeaScale Bangladesh Limited** *Nov 2023 – Aug 2024*
  Associate Software Engineer – Machine Learning Dhaka, Bangladesh
  - Developed and improved machine learning models for recommendation systems, increasing user engagement by 15% (measured by click-through rate).
  - Designed a contextual recommendation system using NLP and deep learning, improving recommendation relevance by 20%.
  - Integrated OpenSearch as a vector database for embedding storage and retrieval.

◦ Deployed machine learning solutions via REST APIs with version control.

- **Young Learners' Research Lab** *Jan 2023 – Dec 2024*
  Research Assistant Rajshahi, Bangladesh
  ◦ Conducted research in medical imaging, machine learning, computer vision, and NLP.
  ◦ Developed deep learning models for medical image analysis, improving diagnostic accuracy by 18% (compared to baseline).
  ◦ Collaborated with medical professionals to design and validate AI-assisted diagnostic tools.
  ◦ Presented research at departmental seminars and contributed to 6 academic publications (2 as first author).
- **Outlier** *Jun 2024 – Present*
  Generative AI Trainer San Francisco, CA (Remote, Part-Time)
  ◦ Trained and evaluated generative AI models through structured text conversations, providing expert feedback on language model performance.
  ◦ Conducted AI response evaluation and hallucination detection, reviewing outputs for factual accuracy and tone.
  ◦ Collaborated with AI development teams to enhance large language model capabilities.
  ◦ Provided detailed performance assessments to support model improvement.

Skills

- **Data Science, Machine Learning & Deep Learning:** Python, Data Analysis, Visualization, ANN, CNN, Supervised Learning Algorithms, Segmentation Algorithms, Feature Engineering, Feature Selection & Extraction, NLP, Recommender Systems, Topic Modeling, Transformers, Language Models, Semantic Search
- **Programming Languages:** Python, C/C++, SQL
- **Frameworks & Libraries:** Django, REST Framework, FastAPI, PyTorch, ONNXRUNTIME, Hugging Face, BERTopic, TensorFlow, Keras, OpenCV, NumPy, Pandas, Matplotlib, Scikit-Learn, Beautiful Soup.
- **Developer Tools:** Git, Jupyter Notebook, Excel, Overleaf, MATLAB, CodeBlocks, VS Code, PyCharm.
- **Languages:** Bangla, English

Projects

- **Retinal Disease Multiclass Classification using OCT Images** *2024*
  Tools: Python, TensorFlow/Keras, Numpy, Pandas, Matplotlib, Seaborn, Sklearn [GitHub]
  ◦ Developed hybrid CNN architectures (DenseNet-CBAM-Skip, Xception-CBAM-Skip) for OCT image classification, achieving up to 96.3% accuracy on the OCT-C8 dataset.
  ◦ Enhanced feature extraction using attention mechanisms to focus on critical regions in OCT images.
- **Suicidal Ideation Detection Using Language Models** *2024*
  Tools: Python, PyTorch, Hugging Face Transformers, BERT, NLTK, Sklearn, Matplotlib, Pandas [GitHub]
  ◦ Built an NLP system for early detection of suicidal ideation in Reddit posts using transformer models (BERT, DistilBERT, RoBERTa, ELECTRA-Small) with Bi-GRU layers.
  ◦ Achieved up to 95.8% accuracy and low false negative rates through advanced model fine-tuning and evaluation.
  ◦ Designed a robust text preprocessing and feature extraction pipeline for social media data.
- **Doctor Bhai: Healthcare Assistance Platform** *2021*
  Tools: Django, QtPy, HTML, CSS [GitHub]
  ◦ Developed a web platform connecting patients with medical professionals for appointment booking in Rajshahi, Bangladesh.
  ◦ Implemented user-friendly interfaces and backend systems to streamline healthcare access.
  ◦ Completed as part of CSE 3100 coursework, demonstrating practical web development and problem-solving skills.

Honors and Awards

- **6th Place - GyanJam 2019 Intra RUET Programming Contest** *2019*
  Department of Computer Science & Engineering, RUET
  ◦ Achieved 6th position in competitive programming contest among university students
  ◦ Team Name: k3rnel_pan1c - demonstrated collaborative problem-solving and algorithmic thinking skills
- **Board Scholarship - Secondary School Certificate (SSC)** *2015*
  Dhaka Education Board
  ◦ Awarded TalentPool Grade scholarship for excellence in SSC examination
  ◦ Received approximately $350 USD scholarship for outstanding academic performance
- **Board Scholarship - Junior School Certificate (JSC)** *2012 - 2014*
  Dhaka Education Board
  ◦ Awarded General Grade scholarship for excellence in JSC examination 2012
  ◦ Received full tuition fee waiver with $71 USD annual stipend (2013-2014)

Volunteer Experience

- **Mentor** *Jan. 2019 - June 2021*
  RUET Analytical Programming Lab (RAPL)
  ◦ Guided students in problem-solving and programming competitions.
- **Organizing Member** *Nov. 2022 - Present*
  RUET e-Sports Club
  ◦ Organized gaming events and managed club activities.
- **Group Representative** *Feb. 2016 - June 2017*
  Outward Bound Adventure Club, Notre Dame College
  ◦ Led group activities and ensured team coordination.

Certifications

- **Data Scientist: Machine Learning Specialist Career Path** *Jun 2020*
  ◦ **Certifying Body:** Codecademy
  ◦ **Skills Covered:** Deep Learning, Feature Engineering, AB Testing etc.
- **SQL for Data Science** *Apr 2020*
  ◦ **Certifying Body:** Coursera
  ◦ **Skills Covered:** SQL Database Management and Data Analysis