

Solayman Hossain Emon

Doctoral Research Assistant

Data Science, UTEP

Portfolio: <https://solayman-cs.github.io/>

Google Scholar: [scholar profile](#)

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SUMMARY

- UTEP-UTMB (The University of Texas Medical Branch) Collaboration
- UTEP-Drexel Collaboration - Minority Science and Engineering Improvement Program (DoEd-MSEIP)
- Lab Manager at Intelligent Systems Engineering Lab
- Computer Programming Instructor at High School's Workshop
- Collaborating with Texas Tech School of Dental Medicine (TTUHSC EL PASO)

EDUCATION

- **The University of Texas at El Paso (UTEP)** Texas, USA
Ph.D. in Data Science *Jan 2022 – Present*
GPA: 3.80
- **Ahsanullah University of Science and Technology (AUST)** Dhaka, Bangladesh
B.Sc. in Computer Science and Engineering (CSE) *Sept 2016 – Dec 2020*
CGPA: 3.544
Advisors: Mr. Shoeb Mohammad Shahriar and Mr. Mir Tafseer Nayeem
Thesis Title: Automatic Video Summarization from Cricket Videos Using Deep Learning

SKILLS SUMMARY

- **Relevant concepts:** Data Analytics, Decision Science, Data Structure & Algorithms, Computational Statistics
- **Computing abilities:** C++, C#, Python, R, Mathematica, Julia, Java, SQL
- **Frameworks:** PyTorch, TensorFlow, Minitab, BootStrap, 3D Slicer

RESEARCH EXPERIENCE

- **Doctoral Research Assistant** Texas, USA
Research Institute for Manufacturing and Engineering Systems (RIMES) *Jan 2022 - Present*
 - **Projects:** 3D visualization of dental bone loss, Traumatic brain injuries (TBI), Volumetric analysis of intracranial hemorrhage (ICH)
- **Research and Development (R&D) Intern** Dhaka, Bangladesh
Psycure Organization *Aug 2020 – Nov 2020*
 - **Project:** Explore the possible factors which impact the workplace productivity of the employee
 - **Findings:** Flakiness, linguistic discrimination are two crucial factors affecting workplace productivity

RELATED EXPERIENCE

- **Lab Manager** Texas, USA
Intelligent Systems Engineering Lab (ISEL) *November 2022 - Present*
- **WebMaster** Texas, USA
Systems Modeling and Simulation (SMS) Website *January 2023 - Present*
- **Instructor** Texas, USA
High School's Workshops *June 2022 - Present*
 - **Sessions:** Applications of Machine Learning, Python Hands-On Coding Session

PROJECTS

- **Reinforcement Learning based Video Summarization (Reinforcement Learning, Computer Vision):** Tech: PyTorch, & OpenCV. (September '19)
- **University Management System (UMS):** Tech: C# & SQL. (January '20)
- **Microcontroller Based System Design (Facilitated Smart Dustbin):** Tech: C++, Arduino (March '19)

ONGOING PROJECTS

- **Dental bone loss estimation (UTEP & Texas Tech School of Dental Medicine Collaboration):** Tech: Python, VTK, & 3D Slicer. (April '23)
- **Intracranial hemorrhage estimation(Deep learning, Medical Image Processing):** Tech: Python, PyTorch, Tensorflow (February '22)

PUBLICATIONS

- [1] Solayman Hossain Emon, AHM Annur, Abir Hossain Xian, Kazi Mahia Sultana, and Shoeb Mohammad Shahriar. Automatic video summarization from cricket videos using deep learning. In *2020 23rd International Conference on Computer and Information Technology (ICCIT)*, pages 1–6. IEEE, 2020.
- [2] Solayman Hossain Emon, MD Afranul Haque Mridha, and Mohtasim Shovon. Automated recognition of rice grain diseases using deep learning. In *2020 11th International Conference on Electrical and Computer Engineering (ICECE)*, pages 230–233. IEEE, 2020.
- [3] Solayman Hossain Emon, Md Fashiar Rahman, Bill Tseng, and Michael Pokojovy. Automatic hemorrhage segmentation in brain ct scans using curriculum-based semi-supervised learnin. In *SPIE Medical Imaging Conference 2024*. SPIE, 2024 (Under Review).
- [4] Md Fazle Rabbi, Solayman Hossain Emon, Md Fashiar Rahman, and Bill Tseng. A novel approach for defect detection of wind turbine blade using virtual reality and deep learning. In *Proceedings of the IISE Annual Conference & Expo 2023*, pages 30–33. IISE, 2023.

HONORS AND AWARDS

- Best Research and Development (R&D) Intern Award in Psycure Organization - Sept, 2021
- Best Track Paper by the Manufacturing and Design (M&D) division at the IISE-2023 Conference - February, 2023
- UTEP College of Science Dean's Office Research Award - Summer, 2023
- Bangladesh Government Scholarship in Junior and Primary Schooling Level

COMMUNITY SERVICES AND ORGANIZATION

- Sub Executive of Dept of Olympiad at Dhaka College Science Club - Sept, 2015
- Bangladesh Student Association (BSA), Logistic Secretary - August, 2023
- International Food Fair at UTEP - 1st Prize winner (Bangladesh Student Association)

AFFILIATIONS AND MEMBERSHIPS

- Research Institute for Manufacturing and Engineering Systems (RIMES)
- Bangladesh Student Association, UTEP - February, 2022
- AUST Innovation & Design Club, Bangladesh - March, 2020
- Dhaka College Science Club, Bangladesh - August, 2015

VOLUNTEER EXPERIENCE

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| • Volunteered in Undergraduate & Graduate Student Orientation <i>Welcome presentation & Hands-On sessions</i> | UTEP, USA <i>March 2022 - Present</i> |
| • Program Committe Member at IMSE Day 2023 <i>Organized events, assist faculty members</i> | UTEP, USA <i>March 2023</i> |

CERTIFICATIONS

- Graduate Certificate in Big Data Analytics - UTEP, USA (Ongoing)
- Coursera - Data Science Specialization by Johns Hopkins University (Ongoing)
- Coursera - What is Data Science? by IBM