Md Mosharaf Hossan

+1-208-406-7454 | mdmosharafhossan@isu.edu | mosharaf13.github.io

in mosharaf13 | ⭘ mosharaf13

Pocatello, Idaho - 83201, United States

RESEARCH INTERESTS

Human-Computer Interaction, Software Engineering, Empirical Software Engineering, Computer Vision, Machine Learning

EDUCATION

- **Idaho State University** *August, 2025 - Present*
  MS in Computer Science Idaho, United States
  ◦ GPA: 3.93/4.00

- **Khulna University of Engineering & Technology** *April, 2014 - February, 2018*
  B.Sc. in Computer Science Khulna, Bangladesh
  ◦ Grade: 3.06/4.00

PEER REVIEWED PUBLICATIONS

[C.1] [**IETC, 24**] Rifat Ara Tasnim, **Md Mosharaf Hossan**, Farjana Z. Eishita (2024). **Analyzing Differential Impact of Text-Based Instructions in Video Games**. In *2024 Intermountain Engineering, Technology and Computing (IETC)*, pages 227-232, IEEE, 2024, Location. DOI: 10.1109/IETC61393.2024.10564249

[C.2] [**IoTaIS, 24**] **Md Mosharaf Hossan**, Mostafa M. Fouda, Farjana Z. Eishita (2024). **Adaptive Game Design Using Machine Learning Techniques: A Survey**. Manuscript accepted for publication in *The 2024 IEEE International Conference on Internet of Things and Intelligence System (IoTaIS 2024)*

[C.3] **Md Mosharaf Hossan**, Rifat Ara Tasnim, Farjana Z. Eishita (2024). **Can You Keep Calm?: Interactive Gameplay with Heart Rate as the Controller**. Under Review

PROFESSIONAL EXPERIENCE

- **Idaho State University** *August 2023 - Present*
  Graduate Teaching Assistant Pocatello, United States
  ◦ CS1181 Computer Science and Programming, Fall, 23. **Used Skills:** C++
  ◦ CS4412/5512 Advanced Algorithms, Spring, 24. **Used Skills:** Python
  ◦ CS4412/5512 Advanced Algorithms, Fall, 24. **Used Skills:** C++
  ◦ Conducted office hours to supervise students in solving their problems
  ◦ Graded homework, assignments, and projects and provided feedback
  ◦ Developed a VR game that adapts itself based on player's real time heart rate feedback through smartwatch. **Used Skills:** Unity, C#, Kotlin, Laravel, MySQL

- **Nimble** *May 2023 - July 2023*
  Web Developer Bangkok, Thailand
  ◦ Initiated development of a google scrapping tool based on rails template. **Used Skills:** Ruby on Rails, PostgreSQL
  ◦ Contributed to Nimble's optimized rails template. **Used Skills:** Ruby on Rails

- **Sigma Solutions**   *July 2021 - April 2023*
  Senior Software Engineer   Dhaka, Bangladesh
  ◦ Led a team of 5 developers in design and development of several SOC automation tools for South East
    Asia's telecom companies which automates BTS tower management e.g. real-time status, automatic fault
    detection, and reporting. It reduced manual effort of service operation team by nearly **80%**. **Used Skills:**
    Python, Laravel, Vue.js, MySQL, Redis

  ◦ Developed task and ticket management modules for Smartcomm, a SaaS-based multi-tenant omnichannel
    customer query management system featuring an integrated Asterisk-based call center solution. **Used
    Skills:** Laravel, Vue.js, PostgreSQL

  ◦ Led a team of 3 developers to automate UI-based user management systems on Ericsson, Nokia, and Huawei
    websites with browser automation through webdriver protocol. **Used Skills:** Laravel, Vue.js, MySQL

- **Sigma Solutions**   *March 2019 - June 2021*
  Software Engineer   Dhaka, Bangladesh
  ◦ Designed and Developed a inventory system to scrap and store telecom node data from remote resources
    periodically. **Used Skills:** PHP, MySQL

  ◦ Developed RopeAccess, a customized internal operations management system with CRM and task
    management modules. Conducted requirement analysis, task distribution, functional implementation. **Used
    Skills:** Vue.js, Laravel, MySQL

  ◦ Developed RESTful apis, restructured frontend modules, designed UI, and integrated payment gateway for
    Pixmama- the largest stock photo marketplace in Bangladesh. **Used Skills:** Angular, Laravel, Express.js,
    MySQL, Elasticsearch, Redis

- **Hyper Systems Ltd.**   *May 2018 - February 2021*
  Software Engineer   Dhaka, Bangladesh
  ◦ Built RESTful APIs for myRADAR, a GPS-based vehicle tracking system with 2k daily active devices
    generating around 4M data each day. Improved refuel detection efficiency by **50%**. **Used Skills:** Laravel,
    Vue.js, MongoDB

PROJECTS

- **Proteineizer :** A visualizer of DNA and Protein sequence to help physicians find the hot spot by
  comparing the sequence of a cancer patient with a healthy person through stacked visualization. **Used
  Skills:** D3.js, Vanilla js

- **Fleet Searcher :** An asynchronous keyword based google scrapper which scraps and stores relevant
  information while keeping search query throttling in mind **Used Skills:** Laravel, Vue.js, MySQL

SKILLS

- **Programming Languages:** Python, PHP, JavaScript, C/C++, C#, SQL, HTML/CSS, Cypher, Ruby,
  Kotlin

- **Frameworks:** Laravel, PHPUnit, Vue.js, Angular, Nuxt.js, D3.js, Tailwind CSS, Ruby on Rails

- **Database Systems:** MySQL, PostgreSQL, MongoDB, Neo4j

- **Cloud Technologies:** AWS

- **DevOps & Version Control:** Docker, Docker Swarm, Git

- **Other Tools & Technologies:** Unity, Redis, Elasticsearch, TDD, CI/CD, LaTeX

CONFERENCE PROGRAM COMMITTEE/REVIEWER

- 2024 IEEE Gaming, Entertainment, and Media Conference (GEM)

- COMPSAC 2024

- MobileHCI '24: 26th International Conference on Mobile Human-Computer Interaction

CERTIFICATIONS

- **Google:** The Bits and Bytes of Computer Networking   *June 2020*
- **Yale University:** Introduction to Psychology   *October 2020*
- **Deep Teaching Solutions:** Learning How to Learn   *October 2021*

LEADERSHIP EXPERIENCE

- **Treasurer**   *August 2024 - Present*
  ISU Tennis Club
  ◦ Collect membership dues and manage clubs finances

- **Vice President**   *August 2016 - July 2017*
  Bit to Byte, Software Development Club at Khulna University of Engineering & Technology
  ◦ Organize workshops on Software Development
  ◦ Mentor students on their academic Software development projects

REFERENCES

1. **Dr. Farjana Z Eishita**
   Assistant Professor, Department of Computer Science
   Idaho State University
   Email: farjanaeishita@isu.edu

2. **Dr. Minhaz Zibran**
   Associate Professor, Department of Computer Science
   Idaho State University
   Email: minhazzibran@isu.edu

3. **Dr. Mostafa Fouda**
   Associate Professor, Department of Computer Science
   Idaho State University
   Email: mfouda@isu.edu