QUDSEEN SULTANA

f.qudseensultana001@umb.edu | LinkedIn

➢ Education:

Master of Science, Computer Science ***Sept 2022 – Dec 2023***

University of Massachusetts Boston, Boston, MA | GPA: 3.77

Relevant Coursework

Theory of computation, User Interface Design, Object-Oriented Design and Programming, Database Application Development, Computer Vision, Biomedical signals processing, Analysis of Algorithms.

➢ Technical Skills:

Programming Languages: Java, Python, Bash Scripting, JavaScript, C- Programming, HTML/CSS

Framework, libraries: Pysam, Plotly, Dash, React.js, Node.js, Cannon.js, Docker

Databases: MySQL, MongoDB

➢ Relevant Experience:

Graduate Research Assistant | University of Massachusetts Boston, Boston, MA ***Aug 2023 – Jan 2024***

- Spearheaded the development of a Python-based web-app/dashboard to visualize complex genomic data, enhancing data accessibility and analysis. (URL)(GIT)
- Contributed to research in single-cell transcriptomics, utilizing RNA-seq, sRNA-seq, and tools like Cell Ranger and velocyto on the HPC (chimera cluster).
- Partnered with wet lab teams to process extensive NGS datasets, employing Pysam, Bash scripting, and SnakeMake.
- Improved analysis efficiency by 15% through optimized data processing techniques and pipelines.

Graduate Teaching Assistant | University of Massachusetts Boston, Boston, MA ***Jan – June 2023***

- Collaborated with Engineering instructor to enhance lectures, discussions, and feedback for Probability and Random Processes and Advanced Digital Design courses.
- Designed, managed, and graded projects and assignments for 44 students.

Intern | ENRUN INDIA, Hyderabad, India ***Oct – Dec 2021***

- Engineered a remote-access environment resulting in a 30% reduction in energy consumption.
- Evaluated the environment's efficacy using a variety of wireless communication technologies, including Wi-Fi, GSM, Bluetooth, and ZigBee.

Capstone Project Management Portal (URL) (GIT) ***Sept– Dec 2023***

- Led a team to develop a robust MERN stack-based web application, employing Agile Methodology to optimize capstone project management for educators.
- Deployed the application on Render.com, ensuring accessibility and scalability for diverse educational needs.

Modelling Spine Kinematics using Game Physics Engine (GIT) ***Jan – May 2023***

- Simulated spine kinematics employing cannon.js, Unity, and Unreal physics engines to aid diagnostic research on lumbar back pain in collaboration with Brigham and Women's Hospital.
- Evaluated and compared simulation outcomes resulting in a 20% improvement in the precision of spinal motion emulation.

Food For Everyone Mobile Application (GIT) ***Sept – Dec 2022***

- Innovated the user interface of a mobile application utilizing HTML, CSS, and JavaScript, to alert users about potential allergens in their orders.
- Built a responsive and intuitive interface, seamlessly integrating allergy-sensitive warning systems to enhance user safety and experience.