

MD JABIR HOSSAIN

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EDUCATION

University of Florida, Honors Program

Gainesville, FL

B.Sc. in Computer Science and B.A. in Mathematics

Aug 2019 - Spring 2023 (8 semesters)

- GPA: 3.81
- **UWC Shelby Davis Scholarships (\$192000) that cover 100% of the cost of attendance**
- Courses in CS: Operating Systems, Malware Reverse Engineering, Penetration Testing, Algorithms Abstraction & Design, Machine Learning, Software Engineering, Information & Database Systems, Programming Language Concepts
- Courses in Mathematics: Graph Theory, Numerical Analysis, Linear Algebra for Data Science, Differential Equations

SKILLS SUMMARY

- **Languages:** C++, Java, JavaScript, Python
- **Machine Learning Technologies:** Tensorflow, Keras, Numpy, Pandas
- **Cybersecurity Technologies:** Kali Linux, Remnux, Ghidra, x64dbg, Burp suite
- **Web Technologies:** Nodejs, Nextjs, Reactjs, React Native
- **Miscellaneous:** Agile, Git, Linux, MongoDB

EXPERIENCE

Florida Institute of Cybersecurity, University of Florida

Gainesville, FL

Research Assistant

June 2023 - Current

- **Control Flow Attestation of Embedded Systems**
 - * In progress to develop a methodology to detect control flow attacks, that either reorder the the way code is called or new code is injected. Classified critical blocks of instructions based on their electromagnetic signature.
 - * Identified critical blocks of instructions by profiling the code of a target Arduino program using tools, such as avr-gcov, to extract data on code coverage.

Computer and Information Science and Engineering, University of Florida

Gainesville, FL

Teaching Assistant

Aug 2022 - Current

- Lead two lab sections of 46 students for Programming Fundamentals, a core course for Computer Science majors.
- Hold Office Hours weekly to assist students with course projects and labs.
- Prepare course materials, review codes, and grade exams.

Software Engineering Club

Gainesville, FL

Tech Lead

September 2021 - Current

- Developed the back-end and front-end, using **MERN** stack, of a cross-platform mobile application, for ios and android, named **Clubfinity**, a centralized communication and engagement tool for student organizations. The beta version has been released on App Store and Play Store.
- Followed **MVC** pattern for development with routes, controllers, and DAO, and used third party APIs such as passportjs as middleware and Mailgun for authentication.
- Features include user profiles, club pages, event planning, engagement metrics, announcements, feeds, and so on. The beta version has been released on App Store and Play Store.
- Lead a team of five to six developers to complete biweekly sprints and coordinate with the design team, head of development, and head of product to determine features to enhance or improve.

Florida Hacks with IBM Hackathon

Gainesville, FL

Winner

Aug 2021 - December 2021

- Created a prototype of a website application for IBM hackathon, using **Nodejs**, **Vue**, **MongoDB**, that enables user to have a profile, log activities, compare carbon footprint with global averages, and gain feedback about performance. **The project ranked as one of the top 10 in the competition.**
- Used Firebase to implement authentication and Google Matrix API to calculate distance travelled for a transportation.

Data Science Research, University of Florida

Gainesville, FL

Undergraduate Research Assistant

Aug 2020 - December 2021

- **Data Annotation Framework**
 - * Implemented a web application framework for extending and annotating a knowledge graph.
 - * Pre-processed the datasets, extracted from wikidata, using **Python** to create relation triples.
 - * Built a GUI with **Flask** and **vis.js** to see a visual representation to inspect how the graph correspond to the text.
 - * Features enable extending the graph with more nodes and relations by highlighting the text and selecting relevant entities.
- **Virtual Assistant AI**
 - * Applied existing language model baselines: BERT, BioBERT, and ClinicalBERT, to create a Virtual Assistant for a new medical-related task for UFHealth Shands.
 - * Pre-trained the models on medical texts and fine-tuned for question answering tasks, and measured performance.