MD JABIR HOSSAIN

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Education

University of Florida Gainesville, FL

B.Sc. in Computer Science and B.A. in Mathematics *Aug 2019 - Spring 2023 (8 semesters)*

- GPA: 3.80
- **UWC Shelby Davis Scholarships ($192000) that cover 100% of the cost of attendance**
- Courses in CS: Penetration Testing, Malware Reverse Engineering, Operating Systems, Algorithms Abstraction & Design, Machine Learning, Software Engineering, Information & Database Systems, Programming Language Concepts
- Courses in Mathematics: Linear Algebra, Graph Theory, Numerical Analysis, Linear Algebra for Data Science

Skills Summary

- **Languages:** C++, Java, JavaScript, Python
- **Cybersecurity Technologies:** Kali Linux, Remnux, Ghidra, x64dbg, Burp suite
- **Web Technologies:** Django(beginner), Nodejs, Nextjs, Reactjs, React Native
- **Miscellaneous:** Agile, Git, Linux, MongoDB

Experience

- **Florida Institute of Cybersecurity, University of Florida** Gainesville, FL

  Research Assistant *Jan 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 inject new code. 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 code coverage data.

- **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.
  - 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 won an award and ranked 7th in the state.**
  - Used Firebase to implement authentication and Google Matrix API to calculate distance travelled for a transportation activity.

- **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.