

SADMAN KABIR

Brooklyn, New York | (718) 593 2041 | kabirs@bu.edu | <https://linkedin.com/in/mdskabir> | <https://github.com/corndog-overflow> |

EDUCATION

BOSTON UNIVERSITY

B.S, Computer Engineering.

Concentration in **Machine Learning.**

Dean's List, Fall 2024.

Expected May 2025

EXPERIENCE

Research Intern

Boston University, China Historical Christian Database (CHCD)

(Sept 2024 – Present)

- Focusing as technical intern on **migrating backend** from **neo4j database to PostgreSQL.**
- Translated legacy codebase in cypher language to SQL.
- Reworked legacy queries to implement more accurate data retrieval.
- Currently working toward implementing custom API and later integrating into production.

Software Engineering Teaching Assistant

(May 2023 – August 2023)

Giant Machines Software (now part of Deloitte Digital)

- Mentored and instructed externs and fellows representing Citadel Securities, Bank of America and MasterCard.
- Lectured students on **python, web development using HTML, CSS, Flask, MongoDB, and Bootstrap.**
- Fostered good interview etiquette, taught essential **algorithms, data structures and computer science theory.**

PROJECTS

Semi-Autonomous Robotic Ground Convoy

Capstone project for Boston University and The Charles Stark Draper Laboratory.

- **Co-led robotic perception** team for the automatic detection and tracking of designated field targets.
- Leveraging **SLAM algorithms for obstacle avoidance**, working toward **swarm behavior.**
- Programming ROS2 perception nodes in python, with various computer vision methods from **semantic segmentation** to **neural nets.**
- Annotating custom datasets for **transfer learning** on existing object detection architectures like **yolov8.**

ResNet Convolutional Neural Network

- Built simplified ResNet model to classify images from Cifar-10 Dataset.
- Utilized PyTorch and CUDA supported GPU for training through **30 epochs.**
- Ultimately achieved **~90% classification accuracy.**

FPGA Video Game

- **Designed RTL circuit in Verilog;** integrated 7 Segment Displays, switches, and buttons to create 2 Player FPGA game.
- **Wrote numerous testbenches** in Xilinx Vivado, and fit to FPGA, passing **100% of test cases on board.**
- Demonstrated proficiency in implementing **FSMs, behavioral, and structural Verilog, and verification techniques.**

SKILLS

Languages, design abilities:

- C++, C, C#, SQL, Verilog, Electronic/Digital Circuit Design, Python, JavaScript, Java,
- UI/UX Design, Full-stack Application Development, Embedded Systems development.

Tools/Libraries:

- TensorFlow, PyTorch, OpenCV, ROS2, Xilinx Vivado, .NET Frameworks, OnShape,
- MATLAB, Jupyter Notebooks, WireShark, UNIX, Bootstrap, REACT Native, Electron,
- Visual Studio, Flask, NodeJS, Express JS, MongoDB, PostgreSQL, SQLite, Figma.

RELEVANT COURSEWORK

- Electric Circuits, Digital Logic Design, Embedded Systems, Robotics, Machine Learning,
- Deep Learning, Cybersecurity. Calculus I, II, III; Physics I, II; Statics; Probability and Statistics;
- Signals and Systems; Computer Organization; Algorithms and Data Structures.