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**. **Expected May 2025**
Concentration in Machine Learning.

RELEVANT COURSEWORK:
Machine Learning, Computer Networking, **Computer Organization**, Signals and Systems, **Robotics**.
Software Engineering, Algorithms and Data Structures, **Electronic Circuits**, **Digital Circuit Design**.

SKILLS

TECHNICAL SKILLS:
C++, C, Verilog, MATLAB**, Python, Machine Learning, JavaScript,** HTML**,** CSS**,** CAD**, Assembly,** Socket Programming.

TOOLS/LIBRARIES:
OpenCV, ROS2, PyTorch, Electron, Flutter**, NumPy, scikit-learn, MongoDB,** Flask**, PostgreSQL, Xilinx Vivado,** UNIX**, Git**

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.**
- Rewriting queries and API calls to **improve performance** post migration.
- Discovered **vulnerabilities**/bugs in system, later **implemented solutions.**

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 CS principles.**

PROJECTS

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.**

Autonomously Navigating, Vision Enabled Robot

- Programmed robot **with semantic segmentation functions using OpenCV.**
- Implemented auto navigation **using PID control from camera input to motor speed and angle.**
- Developed communication of various system elements **using ROS2.**

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.**

INVOLVEMENT

Boston University Mars Rover Club – Control Systems Sub team (Sept 2022 - Present)

- Focusing on programming robotic arm behavior with ROS2 and Moveit 2.
- Leverage understanding of Machine Learning algorithms and libraries such as OpenCV for autonomous navigation

Liquid Fun! BU

- Member and participant in BU's premier improv comedy club.