

SKILLS

- **Languages:** (*proficient*): C/C++, Python, HTML, ARM assembly, Verilog (*familiar*): Java, CSS, JavaScript.
- **Tool/Technologies:** Git, Pytorch, Tensorflow, Numpy, Linux.

EDUCATION

- TORONTO, ON** **University of Toronto** September 2019 – Present
- **Major:** Fourth Year, Computer Engineering, B.S.E (**Cumulative GPA: 3.81**).
 - **Certificate (Minor):** Artificial Intelligence.
 - **Relevant Coursework:** Algorithms & Data Structures, Operating Systems, Computer Networks, Databases, Control Systems, Machine Learning and Artificial Intelligence, Calculus III.

EXPERIENCES

- Software Developer in Test** **PlayStation** May 2022 – Present
- Developed, and maintained high-quality software applications for PlayStation 5 front-end experience, ensuring high-quality standards and optimal user experience.
 - Designed and implemented automated test scripts using industry-standard testing frameworks and tools, such as Selenium and JUnit, to streamline the testing process and increase efficiency.
 - Collaborated with the development team to establish and enhance continuous integration and continuous delivery (CI/CD) processes, facilitating rapid and reliable software releases.
- Project Manager** **Toronto Island Flood Relief** November 2019 – April 2020
- Lead a team of 6 engineers tasked with finding a viable solution to combat the collapse in communication services during the Toronto Island flooding that affected the islands from 2016-2019.
 - Outlined key project deadlines and goals to build a timeline to help maintain the overall structure of an engineering project provided by a client.
 - Developed a communications solution that allows authorities to contact residents 50% more efficiently.

SOFTWARE PROJECTS

Personal Website: bilalikram.com (for additional information and projects source code)

EZMaps [link](#)

- Designed a map application that provides detailed information about **20+ major cities** around the globe.
- Extracted information using the **OpenStreetMap Database API** and created the user interface using **GTK**.
- Integrated many features integral to mapping software's such as Route Planner, Search and POI locations.
- Applied **A*** and **Dijkstra's Algorithm** as well as numerous data structures such as **Hash Tables**, **Binary Trees** and more to create an application with an average response time of less than **2ms**.
- Solved a variation of the **Travelling Salesman** problem and implemented **simulated annealing** and **2-opts** along with **multithreading** producing a result that performed better than **83%** of other solutions.
- Utilized: C/C++, OpenStreetMap Database API, GTK

Image Captioner [link](#)

- Developed a model that can generate a descriptive caption for an image that is provided to it.
- Incorporated **Attention Networks** and **Encoder-Decoder** architecture using both **CNNs** and **RNN's**.
- Applied **Transfer Learning** by using **ResNet-50** and trained on the **Flickr8k** Dataset.
- Achieved captions that were, on average, **60%** accurate to their given labels on the **BLEU** metric scale.
- Utilized: Python, PyTorch, NumPy, TensorFlow

Twitter Bot [link](#)

- Developed a Twitter Bot that follows, likes, retweets, and responds to all users that follow the account.
- Integrated a **GUI** application using Tkinter that allows you to control the bot easily and respond to users.
- Incorporated a search system that allows users to search for a keyword/phrase from all of twitter and choose to interact with the tweet.
- Utilized: Python, Tweepy, Tkinter