


Bilal Ikram

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EDUCATION

University of Toronto

B.Sc. in Computer Engineering; GPA: 3.81/4.00

Minor in Artificial Intelligence

Toronto, Canada

Sep 2019 – Current

- **Relevant coursework:** Algorithms & Data Structures, Operating Systems, Computer Networks, Database Systems, Control Systems, Machine Learning and Artificial Intelligence, Calculus III

SKILLS

Languages: C/C++, Java, Python, JavaScript, SQL, HTML/CSS, Verilog, ARM Assembly

Tool/Technologies: React, Git, Jira, Jenkins, PyTorch, TensorFlow, NumPy

WORK EXPERIENCE

PlayStation

Software Developer Engineer in Test

Waterloo, Canada

May 2022 – August 2023, Internship

- Authored and maintained high-quality software applications for the PlayStation 5 front-end experience, serving over **10 million** daily users.
- Designed and implemented automated test scripts, increasing app automation coverage by **25%**.
- Optimized regression tests, reducing execution time by **15%** while improving stability by **20%**.
- Integrated **multiple APIs** to automate **test coverage** statistics collection, facilitating detailed, targeted improvement reports for testing processes and coverage.
- Proficiently created and executed comprehensive test plans, covering test objectives and detailed cases for features across four major software releases.

PROJECTS

Personal Portfolio | [GitHub](#) | [bilalikram.com](#)

EZMaps | [GitHub](#)

- Developed a feature-rich map application for **20+ major global cities**, utilizing the **OpenStreetMap Database API** and **GTK** for the user interface..
- Integrated critical mapping functionalities, including Route Planner, Search, and Points of Interest (POI) locations
- Optimized application performance with advanced algorithms (**A* and Dijkstra's**), data structures (**Hash Tables, Binary Trees**), achieving an average response time under **2 milliseconds**.
- Successfully addressed a variation of the Travelling Salesman problem, implementing **simulated annealing, 2-opt optimization**, and **multi-threading** for superior performance, surpassing **83%** of comparable solutions.
- **Utilized:** C/C++, OpenStreetMap Database API, GTK

Image Captioner | [GitHub](#)

- Developed a descriptive image captioning model using Attention Networks and an Encoder-Decoder architecture with **CNNs** and **RNNs**.
- Implemented Transfer Learning by leveraging **ResNet-50** and training the model on the **Flickr8k** Dataset.
- Attained captions with an average accuracy of **60%** based on the **BLEU** metric scale.
- **Utilized:** Python, PyTorch, NumPy, TensorFlow

Twitter Bot | [GitHub](#)

- Developed a feature-rich Twitter Bot that autonomously follows, likes, retweets, and engages with followers
- Designed and integrated a user-friendly **GUI** application with **Tkinter**, streamlining bot control and user interaction.
- Implemented a robust search system, allowing users to perform keyword/phrase searches across Twitter and engage with relevant tweets.
- **Utilized:** Python, Tweepy, Tkinter