Asim Rahman

Computer Engineer Student @ University of Toronto

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EDUCATION

Bachelors of Applied Science: Computer Engineering, Minor in AI Sept. 2021 - April 2026
University of Toronto, St. George Campus

- **Relevant courses**: Algorithms and Data Structures, Operating Systems, Deep Learning, Software Communication & Design, Programming Fundamentals, Digital Systems, Computer Organization, Computer Networks

TECHNICAL SKILLS

Programming: C/C++, Python, Git, ARM Assembly, Verilog, MATLAB, PyTorch, TensorFlow
Tools: Visual Studio Code, Netbeans, Quartus, ModelSim, Google Workspace, Microsoft Excel, Cisco Packet Tracer
Networking: Switch and Router configuration, IP automation such as DHCP And NAT for LANS, VLANS

EXTRA CURRICULARS

3rd Year ECE Class Representative May 2023 - Present

- Advocated for students by communicating course issues to professors and ECE Office
- Participated as a member of Faculty Council through active engagement and voting

ECE Academic Director Sept. 2022 - April 2023

- Managed all 4 years of ECE Class representatives and their associated course issues weekly
- Organized Magellan101 presentation to give 2nd years more info on upper year courses

PROFESSIONAL EXPERIENCE

Cisco Systems – Intern Summer 2020

- Further developed **computer networking** skills and **IP automation** through numerous Cisco Networking Academy learning workshops and online courses
- Assisted in designing and implementing practical **LAN** and **WLAN** implementations in **Cisco Packet Tracer** for use within small departments of the office
- Participated in a variety of networking and speaker session opportunities and workshops, learning from, and engaging with Cisco career professionals demonstrating interpersonal and social networking skills

PROJECTS

Deep Learning, Vehicle Detection Model Summer 2023

- Designed a deep learning model using **PyTorch** and **TensorFlow** that **classifies** and creates **bounding boxes** around 17 different object classes (vehicles, traffic lights, etc...)
- Utilized **transfer learning** from YOLOv8 image detection model, **ADAM optimizer** with **adaptive learning rate**, **batch normalization**, and **regularization**
- Hyperparameters for the model were fine tuned through **iterative grid search** that minimizes training, validation, and testing loss

Engineering Software Design, GIS for Students Winter 2023

- Worked in a group of 3 to develop a Geographic Information System (GIS) program similar to Google Maps in **C++**
- Implemented **Dijkstra's**, **A***, **2-opt** and **Greedy** algorithms to facilitate optimal pathfinding within cities
- Used STL templates and data structures such as **vectors** and **maps** to enhance performance
- Utilized the OSM (OpenStreetMap) database API, **GTK** toolkit and **EZGL** graphics package to draw the map, design **GUI** and allow interactivity of map to search, move, and zoom to any desired location defined in the map
- Learned effective design and communication skills for large-scale software development projects

Engineering Design, Air Quality Monitoring System Winter 2022

- Worked alongside a team and client to develop a cheap and affordable indoor air quality monitoring system
- Created a working prototype utilizing Raspberry Pi and air sensors that was presented to, and approved by our client