

# Alamgir Khan

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## Skills

**Languages** Python, Java, JavaScript, HTML, CSS, C, SQL, R, Gherkin, VB.NET  
**Technologies** Node, React, FastAPI, Spring, Django, MongoDB, MySQL, Cucumber, Cypress, AWS, Git/GitLab, Jira

## Experience

### Security Compass

Toronto, Canada

SOFTWARE ENGINEER INTERN

May. 2022 - Aug. 2022

- Expanding functionality of a diagrammatic threat modelling tool, used by 80% of clients, with **JavaScript, React, Redux** and **Cypress**.
- Implemented a sorting algorithm on a **Django** API endpoint in **Python** per request of a \$1,000,000 client and added **behave** API tests using **Gherkin** and **Cucumber**. Featured in the Employee Spotlight of the Month.
- Overhauled diagramming state management using **React**'s `useReducers` to manage complex state changes and reduce code duplication.

### Senso.ai

Toronto, Canada

SOFTWARE ENGINEER INTERN

Sep. 2021 - Dec. 2021

- Designed and hosted an MVP on **AWS** to transfer the company's AI-powered home finance solutions over to the auto industry. Recognized as the most innovative solution amongst 5 other designs by the CTO.
- Coded the backend of the project's recommendation system using **Java** and **Spring** to help partnered banks secure 20% more auto loans.
- Modeled and monitored the project's **MySQL** database through **MySQL Workbench**. Wrote code for all CRUD operations using **JDBC**.

### Navikenz

Cranbury, USA

SOFTWARE ENGINEER INTERN

June. 2021 - Sep. 2021

- Created an optimization tool in **Python** that reduced runtime from days to real-time. Wrote unit tests with 90% code coverage.
- Developed a RESTful web service using **FastAPI** in an agile team of 5 to handle resource distribution. Received high praise from CEO.
- Devised a UML data model and database schema for the project. Implemented all CRUD operations in **MongoDB** using **PyMongo**.

## Projects

### A\* Pathfinding 🧭

Mar. 2021 - Apr. 2021

- Developed a node-based approach of the A\* pathfinding algorithm using **Python** and **Pygame**.
- Coded additional functionality for users to choose from 3 search heuristics and variable display configurations.

### Climate Change Simulation 🧭

Nov. 2020 - Dec. 2020

- Designed an algorithm using **Python** and **Pillow** to visualize a color map of climate change effects predicted by the BCCAQv2 model.
- Programmed a pop-up line and scatter graph and styled table using **Plotly** to display 2 quantitative measures of the model's readings.

## Leadership

### Technology Leadership Initiative

COHORT 4

Sep. 2021 - Apr. 2024

- 1 of 23 out of ~1000 undergraduate UofT CS students admitted to the program on the basis of grit, curiosity, agility, and academic merit.

### UofT Blueprint

VICE-PRESIDENT PROJECTS

Apr. 2022 - Apr. 2023

- Recruit, onboard, and manage 3 development teams in building free and open-source software for social good.

### UofT Computer Science Student Union

DIRECTOR OF EXTERNAL RELATIONS

Oct. 2021 - Apr. 2022

- Arranged 6 career-oriented events by developing/maintaining strategic partnerships with industry experts (Amazon, Microsoft, etc.).

## Education

### University of Toronto

Toronto, Canada

HONOURS B.Sc. COMPUTER SCIENCE AND COMPUTATIONAL COGNITION

Sep. 2020 - Apr. 2024

- GPA: 3.41/4.0
- Relevant Coursework: Software Design, Data Structures & Algorithms, Software Tools & Systems Programming, Computer Organization

## Honors

2018 **Outstanding Cambridge Learners Award**, Cambridge Assessment International Education