

# Mahad Ahmed

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## EDUCATION

### Carleton University

*Bachelor of Engineering in Software Engineering*

Ottawa, ON, Canada

*Sep. 2021 – Present*

## EXPERIENCE

### Research and Development Software Engineer

*Innovation, Science and Economic Development Canada, Full-time*

January 2024 – Present

*Ottawa, ON, Canada*

- Develop and use advanced computer simulations to model and assess wireless systems performance (such as 5G)
- Data collection/preparation/validation for data in the Sustainable Spectrum Management test-bed system
- Integrate remote sensing data into data pipelines; investigate spatial trends present in sensor and crowd-sourced data; develop visualizations that can support large GIS data-sets

### Security Guard

*Securitas Canada, Part-time, ~24 hours/week*

July 2022 – Present

*Ottawa, ON, Canada*

- Utilizing IPARC to create, edit and remove parking passes and access to parking garage.
- Utilizing Building Engines and WINPAK to control, create, edit and/or remove access cards to the buildings on site.

## PROJECTS

### Music Bot for Discord | *Python*

June 2022 — Present

- Created a Python-based music bot on Discord that utilizes the Discord API to scrape and play user-requested songs from YouTube.
- Leveraged the Discord API library available in Python 3 to enable smooth communication and interaction between the bot and Discord servers.

### Simple Translator | *Python*

December 2022 — January 2023

- Developed a Python-based translator application using Tkinter, providing a user-friendly interface for language conversion.
- Implemented language conversion capabilities, enabling users to translate English text to multiple languages such as French, Spanish, German, and Simplified Chinese.
- Utilized the googletrans library, which integrates the Google Translate API, to power the translation functionality of the application.

### Student Support | *JavaScript, HTML, CSS, React*

June 2023 — Present

- Developed a student support website using React framework, JavaScript, HTML, and CSS, providing various resources and advice to upcoming engineering students.
- Provided a range of services, including practice materials for multiple courses, guidance on student issues and a GPA calculator.
- Enhanced the user experience by creating an intuitive and accessible platform for fellow students.

### UNO Flip | *Java*

September 2023 — December 2023

- Implemented UNO Flip card game in Java with Graphical User Interfaces (GUIs), incorporating the Model-View-Controller (MVC) design pattern to ensure a modular and scalable structure.
- Developed an AI player with dynamic sizing and implemented sophisticated AI strategies, including random selection of strategies, enhancing the challenge and unpredictability of AI opponents.
- Leveraged Serialization to enable the seamless saving and loading of game states, providing users with the convenience of resuming games at their own pace.

## TECHNICAL SKILLS

**Languages:** Java, Python, C, JavaScript, LaTeX

**Developer Tools:** Visual Studio Code, JetBrains, Bluej

**Operating Systems:** Windows, Linux, MacOS

**Libraries/Frameworks/Tools:** Git, React, Tkinter, googletrans, Pandas

**Courses:** Object Oriented Programming, Data Structures, Computation and Programming, Foundations of Imperative Programming, Operating Systems