

# Ajan Balaganesh

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## EDUCATION

### Carleton University

Honours, Software Engineering B.Eng.

GPA: 11.61/12.00

Awards/Scholarships: Dean's Honor List 2023/2024, President's Scholarship 2023/2024

Ottawa, Ontario

Expected 2027

## SKILLS

**Languages:** Java, JavaScript, Python, C++, HTML, CSS, Rust

**Libraries/Frameworks/Other Technologies:** Visual Studio Code, Google Colab, GitHub, Git, Bitbucket, Arduino, Raspberry Pi, Tauri, Docker, Arduino, Replit, React.js, React Bootstrap, Tkinter, Pygame, Pyfiglet, Numpy, Scipy, Pandas, Java Swing, TensorFlow, Keras

## WORK EXPERIENCE

### Software Engineer

Carleton University

Ottawa, Ontario

May 2024 – Present

- Spearheading the full-stack development of an interactive application displaying the computer and system engineering department's achievements, announcements and pertinent information on a large interactive screen to increase student engagement.
- Leveraging React.js(with React Bootstrap) for frontend development and Rust with Tauri for backend development.
- Developing testing scripts in Python to test 200+ Raspberry Pi and Arduino embedded systems used by over 2000 students each year.
- Resolving hardware issues for many components in the Raspberry Pi embedded system such as the Pi camera, pressure sensors, temperature sensors and more.

### Programming And Math Tutor

Self-Employed

Ottawa, Ontario

May 2023-Present

- Assisted students with tailored lesson plans in a wide range of computer science topics such as languages(Java and Python), object-oriented programming, basic data structures, algorithms and SDLC models.
- Cultivated a supportive learning atmosphere resulting in a 7% increase in average performance for math students and a 6% increase for programming students compared to the previous year.

### Crew Member

McDonald's

Ottawa, Ontario

April 2023 – May 2024

- Collaborated with fellow crew members in order to fulfill customer orders in a clean and timely manner.
- Resolved customers' complaints using a myriad of conflict-resolution techniques, ensuring customer satisfaction.

## PROJECTS

### Healthcare Cost Prediction Model

**Skills:** Google Colab, Python, TensorFlow, Keras, Pandas, Numpy

- Utilized TensorFlow and Keras to develop a neural-network model that can accurately predict healthcare costs while having a mean absolute error below \$2500.
- Leveraged pandas to read data stored in a CSV file and to split the data into both training and testing data.
- Implemented data preprocessing techniques such as one-hot encoding and normalization to handle both categorical and numerical features efficiently.
- Evaluated model performance by using metrics like mean absolute error and mean squared error.

### Touch Typing Software

**Skills:** Visual Studio Code, Java, Java Swing, Object-Oriented Programming

- Developed an application in Java using Java Swing components and object-oriented programming that helps its users improve their typing speed and accuracy by progressing through multiple levels of typing challenges.
- Calculated WPM (words per minute) and typing accuracy after each attempt.
- Observed an average increase of 6 words per minute and 18% typing accuracy from clients(tutoring students) after just one week of usage.

### Digital Portfolio

**Skills:** Visual Studio Code, HTML, CSS, JavaScript

- Used HTML, CSS and JavaScript to create a fully responsive personal portfolio showcasing relevant personal details, work experience and personal projects.
- Employed creative animations, media queries and other techniques to ensure an enjoyable user experience.
- Deployed page on the internet using GitHub pages.