

# Ajan Balaganesh

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## EDUCATION

### Carleton University

Honors, Software Engineering B.Eng.

CGPA: 12.0/12.0 (11.71 GPA)

Ottawa, Ontario

Expected Graduation: 2027

## SKILLS

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

**Libraries & Frameworks:** React.js, React Bootstrap, Tauri, Numpy, Matplotlib, Scipy, Pandas, TensorFlow, Keras, Tkinter, Pygame, Pyfiglet, Java Swing

**Developer & Engineering Tools:** VS Code, Google Colab, Wing, GitHub, Git, Bitbucket, Jira, Confluence, Docker

**Embedded Systems:** Raspberry Pi, Arduino

## WORK EXPERIENCE

### Software Engineer Intern

Carleton University (Department of Systems and Computer Engineering)

Ottawa, Ontario

May 2024-Present

- Spearheaded the development of an app that enables staff to share department achievements, announcements and general information to engineering students on an interactive display called the sWall.
- Tested Raspberry Pi and Arduino embedded systems.

### Programming & Math Tutor

Self-Employed

Ottawa, Ontario

May 2023-Present

- Assisted 10 students with tailored lesson plans in a wide range of computer science and math topics.
- 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 without my services.

### Crew Member

McDonald's

Ottawa, Ontario

April 2023 – Apr 2024

- Collaborated with fellow crew members in order to fulfill customer orders in a clean and timely manner.

## PROJECTS

### Departmental Hub | Skills: VS Code, JavaScript, React.js, Bootstrap, Rust, Tauri, Docker, Bitbucket, Git

- Utilized React with React Bootstrap for front end development.
- Leveraged Rust for backend operations.
- Worked with the department staff to ensure the project was catered to their specific needs.

### Healthcare Cost Prediction Model | Skills: Google Colab, Python, TensorFlow, Keras, Pandas, Numpy

- Built a linear-regression ML model that predicts healthcare costs with a mean absolute error below \$2500.
- Implemented data preprocessing techniques such as one-hot encoding and normalization to handle both categorical and numerical features efficiently.

### Touch Typing Software | Skills: VS Code, Java, Java Swing, Object-Oriented Programming

- Developed an application that helps users improve their typing speed and accuracy by allowing the user to go through multiple levels of typing challenges.
- Observed an average increase of 6 words per minute and 18% typing accuracy from clients (tutoring students).

### Purple Sorcerer Data Analysis and Visualization Software | Skills: Wing, Python, Numpy, Scipy, Matplotlib

- Designed software to visualize and analyze character data in multiple formats like histograms and bar graphs.
- Implemented sorting and searching algorithms to filter and present relevant data.
- Scripted test functions to perform both regression and unit testing for multiple modules.
- Led weekly stand-ups outside of class to aid group members and ensure weekly deliverables were completed.

### Digital Portfolio | Skills: VS Code, HTML, CSS, JavaScript

- Created a fully responsive personal website showcasing relevant personal details, work experience and projects.