# Jefferson Liu

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## Education

**University of Toronto** Toronto, ON
*Bachelor of Arts in Computer Science* *Sept. 2021 – May 2025*

- **Relevant Coursework**
  - **Foundations of Computer Science 1-2, Data Structures and Analysis, Software Design, Introduction to Machine Learning, Introduction to Databases**

## Technical Skills

**Languages**: Java, Python, JavaScript, HTML/CSS, R, C#, Typescript, XML, SQL
**Developer Tools**:Visual Studio Code, PyCharm, IntelliJ
**Libraries and Frameworks**: tensorflow, NumPy, Matplotlib, plotly, Angular JS, React JS, Keras

## Experience

**Software Developer Intern** May 2022 – August 2022
*Ministry of Government and Consumer Services*

- developed front end elements using Angular JS and React JS for the websites of various government ministries which were deployed during various policy rollouts
- Developed and collaborated on SQL backend database to audit of internal website changes resulting in an adherence to internal data collection policies
- Collaborated actively with a team of 5 people using Jira and Microsoft Teams to develop an internal web application with over 50 users resulting in easier website design requests and designation of tasks
- Developed using a Java backend and an XML and React JS powered UI for internal website used to receive design requests from other government ministries
- Developed various Python macros to simplify tasks leading to increased efficiency among team members

## Projects

**Gamblers Choice** | *Java*

- Local Multiplayer Poker game
- Developed in adherence to Clean Architecture and Solid Design Principles by seperating a Swing frontend with a java packend through the adherance of dependency inversion and the seperation of concerns
- Used Java with an Object Oriented Programming approach
- Led team of 8 developers using git version control to manage push requests
- Managed team scheduling and task distribution adhering to SCRUM principles by using Jira and Microsoft Teams which resulted in surpassing project goals set at the beginning of the project

**Live Emotion Detector** | *Python, Keras, Tensorflow*

- Developed a program to detect facial emotions from a video feed using Python and Tensorflow
- Augmented and pruned data using Keras and Pandas resulting in higher rates of generalization
- Created a CNN with early stopping and dropout to prevent overfitting
- Used CV2 to locate faces
- Model accuracy performed and generalized 6% better than other models trained on the same dataset as a result of data augmentation

## Awards and Activities

**Pico CTF**| *Global top 10%* Oct 2019

- Formed and led a team that competed in the 2019 Pico CTF
- Relegated roles and specializations resulting in a global top 10% placement

**Cyberpatriot**| *Gold* Dec 2020

- Formed and led a team that competed in the 2019 Cyberpatriot cybersecurity competition
- Relegated roles and specializations resulting in a gold ranking