

Ethan Lai

✉ laiethan2003@gmail.com | ☎ (647) 997-9328 | GitHub | LinkedIn | ✓ [Personal Website](#)

Experience.....

Game Programmer (Other Ocean, Charlottetown PEI): 06/2022 - 09/2022

- Collaborated with senior developers and artists to develop gameplay mechanics, tools, and sanity tests in **C#** for the console games, **Night Stalker** and **MediEvil**
- Followed an **Agile scrum development process** to create over **70 commits** that has been reviewed and approved by senior developers

Backend Software Developer (Design 2000, Scarborough ON): 06/2021 - 09/2021

- Collaborated with a small team to develop an **ML-powered application** from scratch
- Worked as a backend developer while leading the team in the development process
- Reviewed, approved, and merged over **90 pull requests** made by team members

Notable Projects.....

Multiplayer-compatible Tetris

- Worked in a small team to create a Tetris battle royale game that features 2 to 5 player compatibility through **peer-to-peer hosting** and **TCP/UDP connections**
- Implemented a **REST API** to set up a peering connection with the **MongoDB** database so players can chat with each other in the game lobby

Couch Material Changer

- Built and trained a **U-Net convolutional neural network** that identifies a sofa in an image, then allows users to swap the sofa's textures
- Uses **semantic segmentation** and **neural style transfer** to accomplish this
- The segmentation model managed to reach a **validation loss of 0.2** and a **validation binary IoU of 0.8**

First-person RPG fighting game

- Programmed countless tools and mechanics such as a **customizable AI** with path-finding, combat behaviors, dialogue, etc.
- Implemented a **save and load system** that saves data by serializing it into an XML file

App Updater Tool

- Using the **.NET Core** framework, developed a tool that allows developers to distribute an app that **automatically updates itself** by searching for a new version on an online file server

Skills.....

- **Languages:** Python, Java, C#, C, R, JavaScript, CSS, HTML
- **Technologies:** Tensorflow, PyTorch, ReactJS, Django, NodeJS, ExpressJS, .NET Core, JavaFX, MySQL, NoSQL, MongoDB, Unity, Blender, Git

Education.....

University of Toronto | Computer Science Major | GIS Minor | Statistics Minor | 09/2021 - Present

Achievements.....

- University of Toronto **Honor Roll** in Mathematical and Computational Sciences (**3.70/4.00 CGPA**)
- University of Toronto Scholar Award + Entrance Award (**\$13500** + conditional **\$6000**)
- **Computer Science** and **Computer Engineering** Gr. 12 academic awards (Graduated with a **97% average**)