Ethan Lai

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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 development process** to create over **70 commits** 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
- Reviewed, approved, and merged over **20 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 semantic segmentation neural network** that identifies a sofa in an image, then allows users to swap the sofa's textures by using a **neural style transfer model**
- 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
- Published, programmed, and modeled a **Unity** game with countless tools and mechanics such as a **customizable AI** with path-finding, combat behaviors, dialogue, etc.

Dev Recruiter Website
- Using **ReactJS**, developed a login and register system for accounts which are stored in a **MySQL** database. These accounts can save PDF files of the user's resume, user's contacts, and user's skills
- Recruiters can then sort developers by skills or name using a **Regex-based sorting system**

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 **Dean's List Scholar** (**3.70/4.00 CGPA**)
- **Computer Science** and **Computer Engineering** Gr. 12 academic awards (Graduated with a **97% average**)