

# Songxuan Wu

[songxuanwu6@gmail.com](mailto:songxuanwu6@gmail.com) | [github.com/JimmyWooHoo](https://github.com/JimmyWooHoo) | [www.linkedin.com/in/songxuan-wu](https://www.linkedin.com/in/songxuan-wu)

## EDUCATION

### University of Toronto

Toronto, ON

*Bachelor of Science, Computer Science and Statistics*

*Sep. 2024 – May. 2028*

- **Relevant Courses:** Foundations of CS, Statistics and Data Science, Linear Algebra, Calculus with Proofs

### Woodstock Academy

Woodstock, CT

*High School Diploma*

*Jan. 2022 – Jun. 2024*

- **Awards:** AP Scholar with Distinction, Outstanding Math Student, Math Team MVP
- **Clubs:** Coding Club (Founder & President), Robotics Club (Captain), Math Team (Captain)

## PROJECTS

### Text Adventure Game | *Python, Teamwork*

Jan. 2025 – Feb. 2025

- Developed an interactive text-based game using Python and **object-oriented design**.
- Implemented **inventory** management, **scoring system**, and **puzzle-based progression**.
- Designed challenges including move-limited gameplay and score-dependent room access.

### Space Shooter Game | *Python, Pygame, Object-Oriented Programming*

Dec. 2024 – Jan 2025

- Developed a **2D space shooter game** featuring **player-controlled movement**, **enemy waves**, and **laser-based combat**.
- Implemented **collision detection** using Pygame masks for accurate hit registration between lasers and ships.
- Designed **progressive difficulty scaling**, with increasing enemy waves, movement speed, and attack frequency.
- Optimized rendering with **blitting techniques** and efficient **game loop management** for higher frame rates.

### Statistical Analysis of Social Connection | *Python, Jupyter Notebook, Pandas, NumPy*

Oct. 2024 – Dec. 2024

- Analyzed the impact of social engagement using data from the Canadian Social Connection Survey.
- Applied **linear regression**, **hypothesis testing**, and **decision tree regression** to analyze correlations.
- Used **box plots**, **regression plots**, and **decision tree** diagrams to interpret that social connection and community engagement are crucial for enhancing personal health, mental well-being, and life satisfaction.

### Photo Editor | *Python, Pygame*

Sep. 2024 – Oct. 2024

- Developed a Python-based photo editor with grayscale, sepia, pixelation, and cropping **filters**.
- Optimized **pixel manipulation** using list comprehensions for efficient image processing.
- Utilized Pygame for interactive visualization of filter effects.

### Superstar Trivia Game | *Java, Object-Oriented Programming, GUI design*

Mar. 2023 – Apr. 2023

- Developed an interactive Java trivia game with GUI and category-based clues.
- Implemented **inheritance** and **polymorphism** for unique game characters and mechanics.
- Designed an intuitive **Java Swing interface** with interactive elements and timed gameplay.

### Race Game | *Python, Pygame, Object-Oriented Programming*

May. 2022 – Jun. 2022

- Developed a 2D racing game with **player controls**, **AI opponent**, and **collision detection**.
- Implemented **path-following AI** and level-based **difficulty scaling** for dynamic gameplay.
- Optimized rendering with efficient **image transformations** and **blitting techniques**.

## EXTRACURRICULAR LEARNING

### University of Connecticut

Storrs, CT

*Pre-College Summer Program*

*Jun. 2023 – Aug. 2023*

- Completed courses in **Animation Studio** and **Digital Animation & Motion Graphics**.
- Developed a **digital animation project** using industry-standard tools.

## SKILLS

**Programming & Libraries:** Python, Java, Jupyter Notebook, Pygame, Pandas, NumPy

**Software & Development:** OOP, Full-Stack Development, GUI Design, Game Development

**Creative & Design:** Digital Animation, Graphic Design, UI/UX, Image Processing

**Soft Skills:** Teamwork, Communication, Problem-Solving, Leadership