

Songxuan Wu

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EDUCATION

Woodstock Academy

High School Diploma

Woodstock, CT

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)

University of Toronto

Bachelor of Science, Computer Science and Statistics

Toronto, ON

Sep. 2024 – May. 2028

Relevant Courses:

- Python programming with mathematical analysis
- Advanced Python with mathematical analysis
- Calculus with Rigorous Proofs
- Linear Algebra
- Advanced Linear Algebra
- Statistical Reasoning and Data Science

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.

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

Oct. 2024 – Dec. 2024

- Analyzed the impact of social engagement on health practices, loneliness, and life satisfaction using data from the Canadian Social Connection Survey.
- Applied **linear regression**, **hypothesis testing**, and **decision tree regression** to analyze correlations.
- Visualized key findings using box plots, regression plots, and decision tree diagrams to interpret results effectively.

Photo Editor | *Python, Pygame*

Sep. 2024 – Oct. 2024

- Developed a Python-based photo editor with real-time 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*

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** using Pygame.
- 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 | *Digital Animation, Graphic Design*

Jun. 2023 – Aug. 2023

- Completed courses in Animation Studio and Digital Animation & Motion Graphics.
- Developed a short animated project using industry-standard tools.

SKILLS

Programming: Python, Java, OOP, Data Structures, Algorithm Design

Tools & Libraries: PyCharm, Eclipse, Jupyter Notebook, Pygame, Pandas, NumPy

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

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

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