Shane Woloszyn

Computer Science & Economics Student

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Motivated Honors Computer Science and Economics student at Purdue University with a strong interest in the intersection of technology, data, and finance. Experienced in artificial intelligence, data analysis, and software development, with research spanning medical imaging, virtual reality, and financial technology. Skilled in applying advanced technical tools to solve complex problems, present findings, and deliver innovative solutions. Brings a combination of technical expertise, research experience, and leadership ability to both academic and professional projects.

PROFESSIONAL EXPERIENCE

Undergraduate Researcher | Purdue University | West Lafayette, IN, United States

Sep 2025 - Present

- Contributed to the development of a virtual reality cave simulation for classroom instruction and outreach events
- Utilized Unity to render LiDAR-collected cave data into an immersive VR environment
- Designed and implemented interactive elements to enhance user engagement and learning experience

Independent Researcher | University of New England | Biddeford, Maine, United States

Jun 2024–February 2025

- Designed and implemented a Conditional Generative Adversarial Network (CGAN) and Super Resolution Generative Adversarial Network (SRGAN) for generating synthetic chest X-ray images aimed at improving medical education.
- Leveraged Python, PyTorch, and NumPy to construct and refine model architectures, achieving significant enhancements in image fidelity.
- Conducted thorough performance evaluations of the CGAN, employing statistical methods to verify the quality of generated outputs against actual CT scan data.
- Collaborated closely with Dr. Sylvain Jaume, culminating in a presentation at the Summer Undergraduate Research Experience Symposium, showcasing findings and implications for future research.

EDUCATION

Purdue University | West Lafayette, Indiana

August 2025 - June 2029

BS in Computer Science, BA in Economics • Purdue Magnetics Lab • John Martinson Honors College • Certificate in Entrepreneurship and Innovation.

Kennebunk High School | Kennebunk, Maine

August 2021 - June 2025

High School Diploma

4.3 GPA, 12 AP/IB Classes.

PROJECTS

Crypto Arbitrage Trading Dashboard — Python, Streamlit, CCXT

- Built a real-time dashboard to detect profitable crypto arbitrage opportunities across multiple exchanges.
- Simulated paper trades with fee-aware profit calculations and documented past trades and cumulative returns.
- Designed an interactive interface with configurable settings.

File Loading Operating System — C, x86 Assembly

- Developed a simple operating system bootloader and kernel supporting basic file read, write, and edit functionality in a simulated RAM disk environment.
- Implemented low-level VGA text mode output and PS/2 keyboard input handling using direct hardware port communication.
- Programmed the transition from real mode to protected mode on x86 architecture, including Global Descriptor Table (GDT) setup and segment register configuration

SKILLS

Artificial Intelligence and Deep Learning	Deep Learning Frameworks	Data Analytics & Statistics
Virtual Reality Development	Software Development (Python, CCXT)	Systems Programming (C, Assembly)
Financial Technology and Algorithmic Trading	Research and Academic Presentation	Leadership and Project Management