

# JACKSON GRENINGER

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## Education

### Bucknell University

August 2023 – May 2027

*Bachelors of Science in Computer Science and Engineering - 3.67 GPA*

*Lewisburg, PA*

*Bachelors of Management in Engineering Management*

- Minor in Philosophy
- Posse Foundation Full-Tuition Leadership Scholarship (2023–2027)
- Relevant Coursework: Data Structures/Algorithms, Software Engineering, Org/Management, ECE Systems

## Skills

**Technical Skills:** Java, Python, C, R, Unity, Unix/Linux, Git, Version Control, Circuit Design

**Soft Skills:** Problem Solving, Leadership, Communication, Vision, Teamwork, Facilitation, Tenacity, Scrum Frameworks

## Experience

### Co-Developer

January 2025 – Present

*CoComposer*

*Lewisburg, PA*

- Developing Python software that uses a state machine to schedule musical note events(MIDI) which enables users to create algorithmically generated electronic music; implemented multi-threading for precise real-time playback
- Engineered a domain-specific language (DSL) and live compiler enabling users to define and modify state, transition, and quiver objects by editing “.coco” files at runtime.
- Developing a full-stack system that translates complex state machine logic into an intuitive music production platform, integrating a responsive interface, real-time visualization of states and transitions, and UX-driven features to ensure accessibility for users without programming experience.

### Undergraduate Research Assistant

January 2024 – June 2024

*Bucknell University: Physics Department*

*Lewisburg, PA*

- Conducted research in Professor Abigail Kopec’s lab on replicating the XENONnT dark matter apparatus; focused on Data Acquisition (DAQ) system design and operation, including setup, calibration, and signal monitoring
- Created and improved open-source Python and C++ scripts to process and filter digitizer data, transforming raw detector signals into clear, analyzable Gnuplot visualizations for research analysis

## Projects

### Dewdrop Canyon

January 2025 - June 2025

- \* Built a Java version of *Stardew Valley* in a four-person team, applying OOP principles, Git version control, and integrating front-end (SceneBuilder, sprites) with back-end gameplay logic.
- \* Acted as Project Manager with the role of implementing scrum frameworks and ensuring practical development; facilitated sprint planning to motivate consistent efforts and meeting deadlines
- \* Implemented core gameplay logic using event-driven programming to manage character actions such as inventory and crop management; designed front-end components like interactive menus and sprite-based visuals for characters and farm

### Unity Fluid Simulation

July 2025

- \* Developed a smoothed particle hydrodynamics (SPH) fluid simulation in Unity from the ground up, implementing particle-based physics, pressure computation, and near-density calculations to model surface tension
- \* Optimized simulation performance with GPU parallel processing using compute shaders, enabling large-scale, real-time particle interactions and interactive experimentation

## Leadership / Extracurricular

### CEO

January 2024 - Present

*Company A - Bucknell University*

*Lewisburg, PA*

- \* Acted as CEO for a 5 month course where I lead 32 students across six divisions within the company: business, service, HR, communications, marketing, and accounting; worked with the vice president of each division to run daily operations
- \* Created long term company strategy to execute plan of selling a business product and carrying out a service project
- \* Sold over 200 custom products and hosted three fundraising events, resulting in a gross profit of \$10,822 over the course of the semester
- \* Entirely redesigned and redecored the preschool within Otterbein’s Church and Daycare facilities in Sunbury, PA; demolished Otterbein’s decaying and rotted playground and donated over \$6,800 to the Church to rebuild it and open back up to the community

### Executive Board

January 2024 - Present

*Asian Cultural Association (ACA)*

*Lewisburg, PA*

- \* Manage organizational processes including scheduling, budgeting, space setup, and meeting facilitation
- \* Serve as primary liaison between university deans, event managers, dining services, and third-party vendors to ensure smooth logistics for two annual legacy events hosting over 300 students with budgets over \$9,750 each
- \* Promote Asian culture and heritage by curating authentic, educational, and engaging programming for all students on Bucknell’s campus