Hunter Becker

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Education

The Pennsylvania State – *University Park, PA* December 2026

Bachelor of Science in Computer Science **GPA:** 3.91/4.00

Technical Experience

Makerspace Intern – Media, PA Jan 2026 - Present
Trainer, Part & Full Time
- Trained members on 3D printing, laser cutting, and Cricut machine operation and workflows.
- Advised on material selection and design-for-manufacturability to improve print success rates.
- Diagnosed/repaired 3D printer hardware, including hotend replacement and AMS disassembly.

KawiPrints LLC – *Remote* Nov 2024 - Present
Owner/Operator, Part Time
- Designed 20+ custom products and manufactured 100+ units for 3 clients.
- Created and curated a portfolio full of both commercial and personal projects.
- Communicated with clients to obtain, refine, and fulfill project details and requirements.

Chick-fil-A – Ashburn, VA Nov 2020 - July 2023
Trainer, Part & Full Time
- Communicated with customers to accurately and respectfully take orders.
- Oversaw new employees to facilitate the practice of correct and quality service.
- Restocked and cleaned the store, managed guest relations to ensure satisfaction.

Major Projects

Procedural Maze Generation and Graph-Based Navigation July 2024
- Implemented depth-first search with backtracking to generate mazes algorithmically, using a stack-based path and random neighbor selection to create guaranteed-solvable layouts from any grid size
- Used a 2D array data structure with O(1) node lookup via coordinate indexing, enabling efficient neighbor queries and connection validation for complex pathfinding scenarios
- Built a procedural rendering pipeline that converts 2D maze arrays into 3D environments with dynamically generated walls and floors, with real-time regeneration triggered by parameter changes

Vector-Field Pathfinding System Mar 2024
- Implemented Dijkstra's algorithm with priority-queue sorting to compute optimal distances from a goal node, efficiently propagating costs across a grid while avoiding obstacles and respecting travel costs
- Generated dynamic vector fields from distance gradients, where each node calculates directional vectors from neighboring distances to create a shared navigation field that guides agents toward the goal
- Designed the system to support multi-agent pathfinding at scale; Multiple agents reuse a single precomputed field rather than calculating independent paths, reducing computation overhead by orders of magnitude

Java Application Compatibility and Feature Extension Sep 2026
- Ported an application to a new version by fixing breaking API changes, updating dependencies to compatible versions, and resolving a Java toolchain mismatch across IDE settings
- Fixed the disconnect sequence to preserve the reconnection library's saved connection state, which was being lost and preventing the reconnect from actually working
- Resolved timing race conditions by suppressing the library's automatic countdown during the wait window, preventing duplicate sessions and restoring connection behavior

Academic Achievements

Dean’s List Fall 2024 - Spring 2026
- Recognition of near-perfect GPA for all enrolled semesters

Selected for Student Spotlight Fall 2025
- Recognized for exceptional campus involvement

Skills

Languages: Python, C, C++, Java, Lua
OS & Tools: MacOS, Windows, Adobe Suite, Inkscape, Fusion 360, KiCad, Blender, BambuStudio