

Garrett Ellis

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[Portfolio](#) | [GitHub](#) | [LinkedIn](#)

CS junior at USF (3.95 GPA, graduating December 2027) building C++ simulation/pathfinding engines and secure government web applications. Seeking a software engineering internship.

EDUCATION

University of South Florida Tampa, FL

Bachelor of Science in Computer Science | GPA: 3.95 | Expected December 2027

Relevant Coursework: Data Structures & Algorithms, Program Design, Computer Logic Design, Discrete Mathematics

In Progress: Intro to Artificial Intelligence, Automata Theory & Formal Languages, Probability and Statistics for Engineers

EXPERIENCE

Pinellas County Clerk of the Circuit Court and Comptroller Clearwater, FL

Web Developer (Administrative Support Specialist 1)

October 2025 – Present

- Designed a fully offline, AES-256 encrypted web application that automates Florida probate guardianship court filings, replacing manual Excel workflows with guided data entry, automatic calculations, and filing-ready PDF/Excel export; accelerated development using local LLM tooling (Ollama, Continue) for inline code assistance.
- Developed and maintained public-facing web applications in the DNN (DotNetNuke) CMS serving ~500,000 public users and 500+ internal staff; managed the internal website request ticket queue, reducing prior ticket turnaround from weeks to under 24 hours.
- Led ADA/WCAG accessibility remediation across county public-facing pages, improving WAVE AIM scores by ~40% and saving the clerk ~\$10,000 annually by eliminating third-party document remediation outsourcing.

Management Intern (Web Development)

August 2024 – October 2025

- Built Clerk's Closet, a Power Apps inventory management application integrated with SharePoint Lists and Power Automate, replacing ad-hoc email requests with an automated, validated request workflow.
- Consolidated a dozen Clerk-wide SharePoint pages into a unified, branded intranet used by 500+ employees, standardizing document libraries, navigation, and content organization across multiple departments.
- Ranked the department's highest-output docketer: processed 25% of all Intellidact filings at 70 filings/hour while working half the hours of nine peers, eliminating ~\$5,000 in annual overtime costs.

PROJECTS

Graph Loot Engine — C++17 Simulation & Pathfinding Engine

December 2025 – May 2026

github.com/garrettbovo/GraphLoot-Engine

- Implemented Dijkstra and A* pathfinding over an adjacency-list graph backed by `std::unordered_map`, using `std::priority_queue` with custom comparators; benchmarked with `std::chrono` across 1,000 runs, showing A* explores 97% fewer nodes and runs 3.1x faster than Dijkstra on large graphs.
- Architected the engine around a polymorphic world abstraction (World base class, FortniteWorld derived) spanning 11+ classes, with a data-driven item system of 5 item types across 5 rarity tiers configured via CSV so content changes require no recompilation.
- Parallelized 1,000,000+ batch simulation runs with `std::thread` and mutex-protected result aggregation; built with CMake and validated on every push by a GitHub Actions CI pipeline running build and regression checks, with both interactive and headless CLI execution modes.

Collection System Simulation — C/C++ Engine with Trie Indexing

December 2024 – April 2026

github.com/garrettbovo/Pokemon-Go-System-Simulation

- Designed a modular C engine using function-pointer dispatch tables (ListManager, MenuManager, TrieManager structs) to emulate OOP-style polymorphism in C, backed by a doubly linked list supporting insertion, deletion, sort, and reverse operations.
- Engineered a trie-based search system with custom character indexing to handle entries containing apostrophes, hyphens, and periods, enabling $O(k)$ lookup across a 493-record dataset where k is key length.
- Refactored into a hybrid C/C++ architecture using extern "C" linkage to expose the C engine to a C++ wrapper class, managing construction and teardown through RAII.

SKILLS

Languages: C++17, C, Python, JavaScript, HTML/CSS

C++: STL containers and algorithms, templates, RAII, inheritance and polymorphism, structured bindings, `std::thread` / `std::mutex`, file I/O

Tools & Systems: CMake, Make, Git, GitHub Actions (CI/CD), VS Code

Platforms: DNN (DotNetNuke) CMS, SharePoint, Power Apps, Power Automate

AWARDS & ADDITIONAL

International Baccalaureate Diploma Recipient (2021) • Florida Academic Scholarship Recipient (2021)

Languages Spoken: English (native), Spanish (CEFR B2, Upper-Intermediate)