# Paul Carlson

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## Education

**Rensselaer Polytechnic Institute**                                                                              **Aug. 2024 – Present**
Bachelor of Computer Science & Bachelor of Information Technology and Web Science                                          Troy, NY
GPA: 3.60
Relevant Coursework: Intro to Algorithms, Data Structures, Principles of Software, Web Science Systems Development, Foundations of Computer Science, Computer Architecture & Operating Systems

## Experience

**East-SouthEast, LLC**                                                                                            **May 2025 – Dec 2025**
Web & Geospatial Technology Intern                                                                                     Chatham, MA
- Architected and built a professional-grade web mapping application from a legacy system, reducing update deployment time across nine towns from hours to minutes.
- Collected precise property and topographic survey data in the field using high-tech equipment, including GPS receivers and total stations.
- Assisted with survey workflows by performing background data work and digitizing linework in Carlson Survey CAD software.
- Digitized over 100 sewer plans in QGIS to build a new interactive map from scratch, making critical infrastructure data accessible to residents.

## Projects

**Tau Nu Fiji Operations Platform** | Next.js 14, TypeScript, Appwrite, Discord API, AWS Cloud
- Built a unified platform for 20+ users that digitizes facility management and secures academic archives using S3 Pre-Signed URLs, replacing manual trackers with a resilient, centralized architecture.
- Developed a "self-healing" Cron scheduler that assigns weekly tasks and automatically escalates overdue items from private DMs to public channels, enforcing social accountability without human intervention.
- Engineered a friction-less RBAC system synced with live Discord roles, allowing admins to manage governance (assignments, bounties, penalties) directly via native Slash Commands.
- Leveraged agentic AI workflows to accelerate a 11,000+ line refactor, utilizing LLMs for boilerplate generation, pattern enforcement, and rapid migration of legacy code to Clean Architecture standards

**Interactive GIS Map** | East-SouthEast, LLC Internship
- Delivered a dynamic, single-codebase web map serving 9 towns, featuring a suite of commercially valuable tools.
- Developed commercially valuable tools with JavaScript and Mapbox, including a dynamic legend and a multi-page printing utility.
- Built a high-performance, cost-effective tile loader for USGS maps, bypassing expensive third-party APIs.

**Fraternity Stewardship Hub** | Phi Gamma Delta (Tau Nu)
- Developed a full-stack web app with React and Appwrite to manage a fraternity's budget, now in active use.
- Built an admin dashboard with dynamic budget tracking and a member portal with Google OAuth for purchase suggestions.
- Engineered a custom text parser to enable quick, bulk-import logging of items from receipt text.

## Technical Skills

**Languages:** TypeScript, JavaScript (ES6+), Python, C++, SQL, HTML/CSS
**Frameworks:** Next.js 14 (App Router), React, Node.js, Tailwind CSS, React Native (Expo)
**Cloud & Infrastructure:** AWS (S3), Appwrite (BaaS), Serverless Functions, Discord API (Webhooks/Bot)
**Architecture & Tools:** Clean Architecture (Onion Pattern), CI/CD (GitHub Actions), Git, Mapbox GL JS, QGIS

## Leadership / Extracurricular

**Fraternity** | Phi Gamma Delta (Tau Nu Chapter)                                                                 **Jan. 2025 - Present**
Chapter President                                                                                                  Jan. 2026 – Present
- Direct an executive cabinet of 5 officers and 10+ committee chairs to manage organizational strategy, risk mitigation, and relations with university administration and International Headquarters for a 20+ member chapter.

VP of Chapter Scholarship                                                                                          Jan. 2026 – Present
- Orchestrate academic excellence initiatives for 20+ students, implementing data-driven study plans and managing digital resource repositories to maintain a chapter GPA consistently above the university average.

Stewardship & Public Relations Committee Chair                                                                     Apr. 2025 – Dec. 2025
- Manage the fraternity's Instagram presence, creating content to promote events and fundraising campaigns to drive community engagement.
- Responsible for the chapter's household logistics, including managing the meal plan budget and procurement of supplies for all members.

**Eagle Scout** | Boy Scouts of America                                                                           **Nov. 2023**
- Led a team to build and install three community benches, managing the project from initial design and fundraising to final installation.