

EDUCATION

Iowa State University

Bachelor of Science in Computer Science

Expected Graduation: **May 2026**

Ames, IA

EXPERIENCE

Software Engineer Intern

Marshalltown Company

05/2025 - Current

Marshalltown, IA

- Built an end-to-end packaging system that combines a custom 3D packing algorithm with a Blazor-based web application, allowing users to visually track how pallets are packed in real time
- Processed inventory data for 17,400+ tools using C# and LINQPad, transforming raw CSV exports into a structured SQL Server database with accurate case dimensions, weights, and classifications
- Developed interactive UI components using Blazor and MudBlazor, connecting dynamic database content to front-end views through dependency injection and asynchronous event handling

Undergraduate AI Researcher

Software Analytics and Pervasive Parallelism Lab (SwAPP)

08/2024 - 01/2025

Ames, IA

- Developed custom tools using the Tree-sitter parsing library, NumPy, and Python APIs to generate auto-labeled datasets for model analysis, streamlining the labeling process by 60%
- Partnered with a Master's student and two fellow undergraduates to design and optimize a SciPy data-processing pipeline for over 100,000 data points—cutting runtime by 40% and improving clustering accuracy

Software Engineer Intern

The DePaul DICE Lab

05/2024 - 08/2024

Chicago, IL

- Developed a data-processing pipeline in collaboration with a Master's students and the supervising CS professor at DePaul University, using Python, NumPy, and Git to clean and transform container workflow logs—reducing redundancy by 30%
- Designed and launched a Docker container interface on Ubuntu VM, integrating Content-Defined Merkle Trees (CDMT) with Python and Git to improve operational efficiency by 35%

PROJECTS

convertfile.me - Founder | JavaScript, Node.js, Express.js, HTML/CSS, AWS EC2/S3/RDS, Git

02/2025 - Current

- Developed a full-stack file-conversion platform using a JavaScript/HTML/CSS front-end and Node.js/Express back-end to automate user file uploads and conversions and deliver average conversion times under 2 seconds
- Built back-end pipelines with Multer for multi-file uploads, Sharp for efficient image conversions, and PDF-Lib for PDF merges to guarantee precise transformations and raise throughput to 200 files/minute with error rates under 1%
- Deployed AWS infrastructure—EC2 for hosting, S3 for file storage, and RDS (PostgreSQL) for metadata to handle variable traffic spikes and maintain 99.9% uptime

Dungeon Monsters - Linux Game | C, C++, Ncurses, Git, Linux

04/2025

- Engineered a high-performance C/C++ roguelike with procedurally generated multi-level maps, dynamic room/corridor placement, and a Ncurses-based UI to deliver a terminal-style gameplay experience
- Designed and implemented a modular AI engine integrating Dijkstra's pathfinding, telepathic sensing, tunneling logic, and an event-driven priority queue to drive dynamic, unpredictable monster encounters

CyLife - Android Application | Java, Spring Boot, MySQL, Git, WebSockets, Maven, CI/CD

12/2024

- Led the CyLife backend by leveraging Spring Boot, Maven, Git and MySQL, designing and optimizing relational database structures for scalability while integrating CI/CD pipelines to streamline testing, deployment, and code quality assurance
- Integrated real-time chat and notifications using WebSockets, enabling seamless communication and enhancing user experience while ensuring smooth backend-frontend synchronization

SKILLS

Languages: C#, Java, Python, C, C++, JavaScript, TypeScript, PostgreSQL, HTML/CSS

Frameworks/Libraries: Blazor, React.js, Express.js, Node.js, Spring Boot, WebSockets, NumPy, SciPy, Bootstrap

Tools/Technologies: AWS (EC2, S3, RDS), Docker, Git, Maven, Postman, RESTful APIs, Unix/Linux, CI/CD, Swagger UI, LINQPad