HENRY WAGNER

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EDUCATION

University of Michigan - Ann Arbor, MI

Master of Science in Engineering - Computer Science   **May 2026**
- **Coursework:** Machine Learning, Computer Vision, Parallel Computing, Human Computer Interaction, Cryptography, Applied AI in XR

Bachelor of Science in Engineering - Computer Science   **May 2025**
- **GPA: 3.87 / 4.00**
- **Honors/Awards:** 6-semester Dean's List & University Honors, James B Angel Scholar, Department of Engineering Scholarship of Honor
- **Completed Coursework:** Web Systems, Database and Information Systems, Cryptography, UI/UX Development, Programming & Data Structures, Data Structures & Algorithms, Machine Architecture & Assembly, CS Theory, Multivariable Calculus, Differential Equations, Linear Algebra, Discrete Mathematics, Statistics, Physics, Electrical Circuits & Systems

SKILLS

C / C++	Spring MVC	PyTorch	AWS EC2 / RDS / S3	Gradle / Docker / Kubernetes
Python	React	Postgres	Kafka	Cross Cultural Communication
Kotlin / Java	Next.js	Cassandra	Datadog	Open Source Development
TypeScript	Django	MATLAB	Git / GitHub	Familiar with Agile (Jira & Trello),
HTML / CSS	JUnit / Jest	Mathematica	Github Copilot	Scrum, & Waterfall methodologies

WORK EXPERIENCE

W.W. Grainger Inc. - *Chicago, IL*   **June 2025 - Aug 2025**

Software Engineer - Intern for Customer Information Management Team
- Built dynamic Next.js + TypeScript form with conditional field logic, state-dependent validation, and SAP-integrated submission flow
- Reduced manual account intervention by 78% via backend-controlled escalation paths and automated reviewer queue logic
- Integrated external D&B and address verification APIs into Kotlin + Spring Boot services; developed custom endpoints to process, prioritize, and expose validation results for frontend consumption
- Implemented AWS SES email triggers for system events and integrated LaunchDarkly flags across API and UI layers.
- Wrote unit/integration tests using Jest and Spring Test; used Datadog monitors and Slack alerts for error tracing in production.

Grubhub Inc. - *Chicago, IL*   **June 2024 - Aug 2024**

Software Engineer - Intern for Merchant Data and Global Menu Team
- Identified performance issues in a large-scale, customer-facing application and collaborated to determine optimal solutions
- Set up, troubleshooting, and ongoing management of test environments to better align with production conditions
- Conducted rigorous code review and testing to ensure high code quality before promoting to production environment
- Developed a tool to enable improved code management, allowing code variables to be easily toggled on/off through an intuitive UI
- Built out RESTful API endpoints and various command line tools, allowing product data to be more easily accessed and altered

PERSONAL & ACADEMIC PROJECTS

Census – Contact & Networking Management Platform
- Designed and implemented a full-stack web application with a Next.js (TypeScript) frontend and Spring Boot REST API backend, enabling scalable management of professional contacts and organizations
- Engineered relational data models in PostgreSQL with many-to-many associations and metadata (roles, join dates), applying DTO patterns, validation schemas, and secure authentication (Spring Security + JWTs)
- Built reusable, production-quality frontend components with React Hooks, react-hook-form, and zod, and applied test-driven development (JUnit, WebMvc) to validate API contracts and schema integrity
- Preparing deployment on AWS (EC2, RDS, S3) with CI/CD pipelines, ensuring scalability and cloud readiness

Euchre Developed in C++
- Developed a Euchre card game applying object-oriented programming for a modular and scalable code architecture
- Implemented diverse gameplay modes, including user vs. user and user vs. automated opponent, featuring preprogrammed strategic algorithms for a competitive gaming experience

Assembly Language Development Suite
- Developed a comprehensive suite of tools for assembly language programming, including an assembler, simulator, linker, and cache simulator, facilitating efficient coding and testing of assembly code
- Built understanding of processor architectures via hands-on simulations of basic single-cycle, multi-cycle, and pipelined processors

Machine Learning Forum Classifier
- Developed a machine learning-based classifier to categorize forum posts, achieving 85% accuracy utilizing natural language processing techniques to analyze post content and length
- Led the data training process, fine-tuning the model to accurately classify posts into relevant categories, enhancing user experience and content navigation

CAMPUS AND COMMUNITY INVOLVEMENT

V1 - *Software Startup Club*   **Aug 2022 - Present**
- Engage with peers to learn about tech entrepreneurship and the software development lifecycle
- Network with industry professionals to gain valuable insights into practical engineering methodologies and advancements

Michigan Youth Sports Initiative - *Volunteer/Mentor*   **Jan 2023 - Present**
- Organize and support youth sports events, emphasizing community involvement and leadership