Gannon Smith

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Education

University of Michigan - College of Engineering Ann Arbor, MI

Masters of Science in Computer Science Engineering; GPA: 3.7 *Jan. 2025 – Dec. 2025*

Bachelors of Science in Computer Science Engineering; GPA: 3.8 *Aug. 2021 – Dec. 2024*

Experience

Software Engineering Intern May 2025 – Aug. 2025

Procter & Gamble – Innovation Quality & Data Services *Cincinnati, OH*

- Developed and deployed a Python-based quality assurance layer for P&G's global artwork automation platform, validating structured and unstructured attributes across 100K+ products and thousands of dynamic labeling rules, using schema checks, regex, and generative AI.
- Designed and implemented an OCR solution to extend P&G's automated artwork compliance system, enabling detection of multilingual and variably structured text in smart PDFs previously missed by rule-based methods.

Database Engineering Intern May 2024 – Aug. 2024

Procter & Gamble – Cloud & Databases *Cincinnati, OH*

- Developed and deployed a Python-based reporting pipeline for hundreds of Oracle DB instances, eliminating $5M+ in daily licensing cost fluctuations and saving 400+ FTE hours annually by automating license and feature usage monitoring.
- Integrated and cleaned daily telemetry from Oracle Enterprise Manager and DB instances using Azure Edge Functions and Postgres, driving a dashboard that enabled license compliance and anomaly detection at scale.

Connected Data Software Intern May 2023 – Aug. 2023

Ford Motor Company – Powertrain Control *Dearborn, MI*

- Developed a real-time transmission torque monitoring module in C for Ford's Powertrain Control Module, using a customized rainflow algorithm to track hysteresis loops and estimate transmission fatigue, achieving a 98.3% memory reduction over raw data storage.
- Validated performance on real-world drive data in a simulated PCM environment, enabling future fleet-wide deployment of torque fatigue tracking without hardware upgrades.

Software Engineering Technician June 2022 – Apr. 2023

Michigan Medicine – 3D & Innovations *Ann Arbor, MI*

Projects

MHacks Tech Lead | *Next.js, Tailwind CSS, Python, PostgresSQL* Jan. 2024 – Present

- Led an 8-person engineering team to build and maintain infrastructure for Michigan's largest student-run hackathon, supporting 1000+ hackers and $40K+ in prizes.
- Designed and launched a scalable judging system using Python, enabling pairwise comparison of 100+ projects by 30+ judges; reduced bias and improved efficiency of final scoring.

Jester: Chess AI Engine | *C++, Artificial Intelligence* May 2024 – Present

- Built a custom chess engine in C++ using minimax, alpha-beta pruning, and a polymorphic bitboard architecture.
- Implemented positional evaluation heuristics to explore game theory, tree pruning, and large-scale OO design.

Out-of-Order RISC-V CPU – Superscalar R10K | *Verilog, Computer Architecture* Aug. 2024 – Dec. 2024

- Designed and synthesized an N-way superscalar out-of-order RISC-V processor with early branch resolution, speculative execution, and a GShare predictor, achieving 2.12 CPI and 8.6 ns clock period on benchmarks.
- Built and optimized core components (ROB, CDB, RS, caches, BTB/BHR, map table).

Bubble – Location Sharing App | *Rust, PostgresSQL, SQLite* Apr. 2022 – July 2023

- Led backend development for Bubble, a real-time group-based location and messaging app built in Rust with Axum, implementing session-based auth, OpenMLS end-to-end encryption, and CI/CD pipelines.
- Engineered performant APIs for user, group, and location features with polling updates and local SQLite caching.

Technical Skills

Languages: C++, Python, Verilog, Rust, C, JavaScript, SQL, ARM Assembly, MATLAB
Frameworks/Libraries: Next.js, React, Tailwind CSS, Flask, Pytorch, Tensorflow, pandas, NumPy
Developer Tools: Git, Docker, AWS, Azure, Google Cloud Platform, VS Code, Visual Studio