Joseph Zuber

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PROFESSIONAL SUMMARY

Software Engineer with experience in embedded systems, machine learning optimization, and full-stack app development. Published researcher in Graph Neural Networks and geospatial computing. Skilled in C, Python, and Java, with a track record of building performant, production-ready software at Garmin and OSI.

EDUCATION

Iowa State University — *M.S. Computer Engineering (Thesis), GPA: 3.96 (May 2025)*
Iowa State University — *B.S. Computer Engineering (Honors), GPA: 3.89 (May 2023)*

EMPLOYMENT

Garmin, Olathe, Kansas

Software Engineering Intern   May 2023 – August 2023
- Authored and updated module tests to ensure 100% code coverage and DO-178C compliance
- Helped design the touchscreen general user interface (G3000 Prime Integrated Flight Deck)
- Participated in peer code reviews, ensuring readability and maintainability

Open Systems International, Medina, Minnesota

Product Engineer / Software Developer   May 2022 – January 2023
- Independently developed a product from scratch for future use at the company
- Developed custom applications in C and Python, using custom displays and databases, to suit individual user needs for utility monitoring
- Optimized and rewrote legacy code for custom applications, leading to speedups of >100X
- Created training materials for onboarding, significantly improving ramp-up time for new-hires
- Authored in-depth and technical product documentation

Iowa State University, Ames, Iowa

Graduate Teaching Assistant   January 2023 – December 2024
- Delivered recitation and lectures for hundreds of students in Computer Science, Mathematics
- Helped students in office hours, led labs, created quizzes, and performed grading
- Awarded *Graduate Teaching Excellence Award* (2024) for outstanding instruction

SKILLS

Languages	C, Python, Java, SQL
Libraries	CUDA, PyTorch, HuggingFace Transformers, OpenMP, MPI, OpenCV, Flutter, Spring Boot
Software	Git, JIRA, Visual Studio, Bullseye Coverage, Microsoft Office, Overleaf, FFmpeg
Other	LaTeX, Agile/Scrum, Unit Testing, GUI Development, REST APIs

LEADERSHIP

- Elected Engineering Senator for Iowa State Student Government (2021-2022)
- Founded & managed local and international esports organizations (2017–2023), coordinating 50+ members and competitive events across 5 time zones

SELECTED PROJECTS AND PUBLICATIONS

- *Enhanced Soups for Graph Neural Networks:* Invented parallelized model aggregation algorithms which improved post-aggregation accuracy by up to 1.2%, reduced memory usage by up to 76%, and provided a speedup of up to 24.5X; presented at GrAPL 2025, IPDPS.
- *RouteDOC:* Built a routing application with category and origin constraints, showcased at SSTD 2023.
- Created arcade game (Flutter) and pet-social-network app (Java/Spring Boot).