

Joseph Zuber

480 East Marion St. Marengo, Iowa 52301 ♦ 319-202-7272 ♦ joezuber32@gmail.com ♦ <https://zubes.me>

OBJECTIVE

Seeking a full-time position (in-person or hybrid) as a software engineer after the completion of my Master's Thesis in May 2025.

EDUCATION

Iowa State University, Graduate College, Ames, Iowa

Master of Science in Computer Engineering Expected May 2025
Current GPA: 3.96

Iowa State University, College of Engineering, Ames, Iowa

Bachelor of Science in Computer Engineering Graduated with Honors May 2023
GPA: 3.89

Iowa Valley Jr./Sr. High School, Marengo, Iowa

Emphasis on STEM coursework Graduated May 2019
GPA: 3.7

EMPLOYMENT

Iowa State University, Ames, Iowa

Graduate Teaching Assistant January 2023 – Present (during semesters)

- Received the Graduate Teaching Excellence Award in May 2024
- Taught recitation
- Taught lecture when professor was absent
- Helped students in office hours
- Graded homework

Garmin, Olathe, Kansas

Software Engineering Intern May 2023 – August 2023

- Wrote new, and updated existing mod tests
- Worked with GUI
- Code reviews

Open Systems International, Medina, Minnesota

Product Engineer May 2022 – January 2023

- Developed custom applications to suit user needs (in C and Python)
 - Custom applications used custom databases and displays
- Optimized and rewrote existing custom applications
- Created training materials for new hires
- Wrote product documentation
- Performed code reviews
- Developed a product for future use at the company

SKILLS

Languages Spoken/Written: English (limited proficiency in both German & Spanish)

Computer (proficient): C, Python, Java, LaTeX

Computer (familiar with): Verilog, VHDL, SQL, MDX, Cypher

Libraries PyTorch, Transformers/HF, TensorFlow, OpenMP, MPI, OpenCV, CUDA

Software Git, JIRA, Visual Studio, Bullseye Coverage, Microsoft Office, Overleaf, FFmpeg

ACTIVITIES AND LEADERSHIP

- Engineering Senator for Iowa State Student Government 2021-2022
 - Served on Finance, Civic Engagement, and Student Initiatives Committees
- Manager for Iowa State G&E Overwatch Teams 2020-23, player for Varsity Overwatch 2020-22
- ISU Honors Program
 - Conducted research as a part of the First Year Mentor Program in Spring 2020
 - Represented Starbuck House as an HSB house rep. in Spring 2021
- Founder, Player, and Manager of international organization N0tDismiss3d esports (2017-2022)
 - Scheduled practices, recruited players, conducted interviews, organized scrimmages

PROJECTS AND PUBLICATIONS

- Published Works
 - *Data and Resources for Combining Point of Interest Semantics, Locations, and Road Networks*
 - Provided resources for extracting online review information and aggregating it to Poles that are then snapped to a road network
 - Included large datasets for both New York City and Chicago
 - Paper presented at ACM SIGSPATIAL 2024 in Atlanta, GA
 - *RouteDOC: Routing with Distance, Origin and Category Constraints (Demonstration Paper)*
 - Worked on a team to develop a custom application showcasing new routing algorithms
 - Paper and application showcased at SSTD 2023 in Calgary, Alberta, Canada
 - *Enhancing Team Attendance Tracking in TBL Classes: A Comparative Study of LiDAR and Camera-based Systems*
 - Led a comparative study using neural networks to track team attendance
 - Presented at 2023 IEEE Frontiers in Education Conference (FIE) in College Station, Texas
- Other Academic Projects
 - *Model Parallelism in Graph Neural Networks*
 - Explored the use of model parallelism in GNNs to reduce single-device memory usage
 - Found that model parallelism could lead to faster performance in some cases
 - *Iterative Graph Souping*
 - Developed a distributed version of a model souping algorithm which significantly improved performance on Graph Neural Networks
 - Explored an iterative method of model souping for Graph Neural Networks
 - *Exploring the Use of Local Search in Political Districting and its Applications to Congressional Redistricting in the State of Iowa*
 - Explored several local search techniques in literature and their results when applied to congressional redistricting in Iowa
 - Implementation of Real-Time Scheduling Algorithms on CyBot
 - Implemented EDF and RM scheduling algorithms on a real robot vacuum
 - EDF and RM were evaluated in real life scenarios using real tasks the vacuum performed to navigate the environment
 - Mobile App Development
 - Developed two mobile apps for two different classes at Iowa State University
 - An arcade game app, developed using Dart/Flutter and deployed to both IOS and Android
 - A pet-social-network-tournament app, developed using Java/Android Studio with a Springboot backend and deployed to Android
 - GPU Design Project (CPRE 480)
 - Developed a simple, custom-made GPU by implementing the necessary VHDL code, writing some of the driver in C, writing the OpenGL test programs in C, then deploying it onto an FPGA using Vivado