

# Miguel Zapata

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<https://www.linkedin.com/in/miguel-zapata/>

## Education

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### Bachelor of Arts in Computer Science

University of Minnesota, Twin Cities

College of Liberal Arts

December 2024

Minneapolis, MN

GPA: 3.1

### Associate of Arts

Minneapolis Community and Technical College

School of Liberal Arts and Cultures

December 2020

Minneapolis MN

## Skills

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- Programming languages: Python, Java, JavaScript, C++, C, Ocaml, MySql
- Experienced with IDEs including Visual Studio Code, Emacs, IntelliJ, Vim, Android Studio
- Frameworks/Libraries: Express, MySql, JUnit
- Spanish (First), Japanese (Intermediate)

## Projects

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### Soccer Goal Line System: Embedded and Real-Time Systems

University of Minnesota | October 2024 – December 2024

- Developed a Soccer Goal Line System using RFID, ultrasonic sensors, and ATmega 3208 microcontroller to determine ball position across the goal line.
- Implemented real-time data processing via GPIO, USART, and I2C protocols to ensure accurate system detection.

*Tech Stack: C, MPLAB X, ATmega 3208*

### To-Do List Website: Internet Programming

University of Minnesota | November 2024 – December 2024 (Actively improving since)

- Built a full-stack task management application with dynamic task creation, updates, and real-time commenting functionality.
- Integrated MySQL for data persistence and deployed the app for seamless real-time user experience.

*Tech Stack: Pug, Express, CSS, JavaScript, Node.js, MySQL*

### Visual Transit Simulator: Program Design and Development

University of Minnesota | October 2024 – December 2024

- Collaborated with a team to optimize vehicle classes and refactor legacy code using Mockito and test doubles for improved testability.
- Developed JUnit tests and followed Google's Java Style Guide, using Git for version control and team collaboration.

*Tech Stack: Java, JUnit, Gradle, Git, Mockito*

### Image Matching System: Operating Systems

University of Minnesota | March 2024 – April 2024

- Designed a multithreaded client-server system to match images using POSIX threads, with synchronized request queue management.
- Utilized mutex locks and condition variables for thread safety, ensuring reliable image processing across multiple threads.

*Tech Stack: C*

## Work Experience

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Walburgers, Mall of America

Bloomington, MN

### Dishwasher

June 2019 - August 2019

- Maintained health standards to ensure safety in workplace and to customers
- Performed maintenance on dishwashing machinery to maintain optimal performance
- Communicated with kitchen staff and servers to ensure efficient kitchen operations during peak hours