

# Weston Pangle

+1 (734) - 730 - 1810 | panglew.github.io | pangle.weston@gmail.com | linkedin.com/in/panglew/

## EDUCATION

### University Of Michigan, Ann Arbor, MI

2021 - 2025

Bachelor's of Science in Engineering, *Computer Science Engineering*

**Relevant Coursework:** DS&A, Computer Organization, Software Engineering, Web Systems, Operating Systems (6 credit), Computer Networks, Game Design & Dev, Intro Machine Learning, Distributed Systems, Database Management Systems, Computer Security, Calculus (I, II, & IV), Physics (I & II), Statistics

**Languages and Technologies:** (Proficient) C/C++, Python, Git (Intermediate) SQL, Unity, Go, JIRA (Familiar) AWS, JavaScript, CSS, HTML, Java

**Skills:** Organization, Leadership, Communication, Problem-Solving, Teamwork, Time Management, Rapid Learning

## LEADERSHIP AND EXPERIENCE

### Pick It Up! – Technical Game Designer

October 2024 – December 2024

- Formulated and implemented dynamic level layouts, enhancing gameplay mechanics and user experience to create **engaging** and interactive environments
- Sourced and integrated assets to enhance visual appeal and functionality, including advanced **particle effects**, fire and water shaders, and stylized cel shading using **custom Shader Graphs**
- Constructed interactive object scripts to drive gameplay and received recognition for outstanding game design, contributing to team's **1st place** win at game showcase among **14 competing games**

### Michigan Data Science Team – Software Engineer

September 2022 – January 2023

- Developed a Pokémon "auto-battler" using **Python** and **supervised learning techniques**, achieving an **85% success rate** in battle predictions
- Engineered an algorithm for move recommendations based on **Pokémon types, moves, and traits** to optimize competitive performance
- **Collaborated** with a team to design, train, and refine machine learning models for strategic battle simulations

## PERSONAL PROJECTS

### Reliable Transport Protocol

November 2023

- Developed a custom reliable transport protocol over **UDP** to ensure in-order, reliable delivery of data with handling for packet loss, delay, corruption, duplication, and reordering
- Implemented a sliding window mechanism for **wSender** and **wReceiver** to manage transmission and acknowledgment of packets, including features such as retransmission timers and checksum validation
- Optimized data transfer efficiency by modifying **wSender** and **wReceiver** to handle selective acknowledgment and retransmission, reducing unnecessary data retransmissions and improving network performance

### HTTP Proxy w/ DNS

October 2024

- Engineered miProxy, an HTTP proxy facilitating **adaptive video streaming** through real-time bandwidth estimation, improving streaming quality and reducing buffering
- Designed and deployed a DNS-based load balancer using **round-robin** and **geographic distance** algorithms, optimizing server utilization and minimizing latency
- Streamlined concurrent client handling with scalable request forwarding, boosting system throughput and ensuring seamless video delivery under high traffic

### Network File System

April 2024

- Engineered a multithreaded network file system, utilizing a **manager-worker** threading model to optimize handling of concurrent file operations and increase system throughput
- Devised and implemented thread-safe file and directory operations leveraging **mutexes** and **upgradeable locks**, ensuring high data integrity and minimizing bottlenecks during simultaneous access
- Tested and validated system performance across different operational states, ensuring compatibility with both **initialized** and **new file systems**, while maintaining stability and reliability under heavy client load

## ADDITIONAL

**More Projects:** Instagram Clone, Thread Library, Metroid (NES) Remaster, Custom SQL Database, 3D Maze Solver