# Jasmine Joyce DeGuzman

**Email:** deguz033@umn.edu || **Website:** https://jjbdg.netlify.app

## EDUCATION

**University of Minnesota-Twin Cities**, Minneapolis, MN *Anticipated May 2024*

*B.S. Computer Science; Asian and Middle Eastern Studies Minor, Chinese Track*

Coursework: Fundamentals of Computer Graphics, Animation & Planning in Games, Virtual Reality & 3D Interaction, Computer Architecture & Machine Organization, Artificial Intelligence, Digital Design, Computational Linear Algebra

## SKILLS

**Programming Languages:** C/C++, Python, Java, OCaml, TypeScript, JavaScript, C#, OpenGL, Verilog

**Spoken Languages:** English (Native proficiency), Mandarin Chinese (Limited working proficiency)

**Tools/Systems:** Artificial Intelligence, Autodesk Inventor, Git, Godot, Jupyter Notebooks, LaTeX, Machine Learning, Multithreading, Oculus, Processing, React, Unity, UNIX, Xilinx Vivado

## PUBLICATIONS

J. Pivovar, **J. DeGuzman** and E. S. Rosenberg, "Virtual Reality on a SWIM: Scalable World in Miniature," *2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (IEEE VR)*, 2022.

## RESEARCH EXPERIENCE

**University of Minnesota**, Minneapolis, MN

*NSF REU Undergraduate Research Fellow* *Jan. 2023 - Present*

- Conducted research in the area of immersive user interfaces such as virtual reality with a focus in immersion, perception, and interaction advised by Dr. Evan Suma Rosenberg, funded by the National Science Foundation Research Experiences for Undergraduates program.
  - Managed a user study under the Postural Instability and Motion Sickness in Video Games project that recruited/ran 50+ participants in 3 weeks.
  - Performed data analysis on survey responses to the Simulator Sickness Questionnaire for pre and post simulation exposure.
  - Drafted the “Methods” section of the manuscript.

## RESEARCH PROJECTS

**Postural Instability and Motion Sickness in Video Games**, University of Minnesota

*Advisor(s): Dr. Victoria Interrante, Dr. Tom Stoffregen, Dr. Evan Suma Rosenberg*

- Exploration of what type of movements precede motion sickness and how these relations are affected by exposure to virtual reality and video games.

**Virtual Reality on a SWIM: Scalable World in Miniature**, University of Minnesota

*Advisor(s): Dr. Evan Suma Rosenberg*

- Proposal of the Scalable World in Miniature, an extension of the original World-in-Miniature technique, which enables independent scaling and finer control across various object sizes.
- Accepted and published as part of the 3D User Interface Contest at IEEE VR 2022.

**Class 1 MHC-based Identification of Severe COVID-19 Susceptible Populations**, Mayo Clinic/University of Minnesota

*Advisor(s): Dr. George Vasmatzis, Dr. Marc Riedel*

- Creation of computational predictions of the distribution and binding strength of SARS-CoV-2 derived peptides to allelic variants of MHC-I molecules to predict the severity risk for individuals.

## WORK EXPERIENCE

**Microsoft**, Redmond, WA

*Software Engineer Intern - Xbox Player Services* *May 2023 - Aug. 2023*

- Created a structured prompt methodology to generate labeled datasets with ChatGPT through prompt engineering experimentation that identify gaps in current content moderation rules.
- Developed an end-to-end application that enables users to generate labeled datasets that align with company definitions of Hate Speech using ChatGPT.

*Software Engineer Intern - Xbox Player Services* *May 2022 - Aug. 2022*

- Implemented new machine learning models capable of differentiating sans serif font styles to expand automated compliance testing in line with rigorous company accessibility standards.
- Responsible for updating the user interface that identifies whether an image's text components follow accessibility compliance standards to incorporate the font style classifier.

*Explore Intern - Xbox Product Services* *May 2021 - Aug. 2021*

- Streamlined the detection of service availability spikes for Xbox customers by spearheading the creation of a new tool designed to reduce the time spent on root cause analysis.
- Acquired project management and software development experience by directing the project from initial design and development through production; final service ran on +35,000 machines.

**University of Minnesota**, Minneapolis, MN

*Undergraduate Teaching Assistant - Dept. of Computer Science & Engineering* *Jan. 2021 - Jan. 2023*

- Collaborated with the professor and fellow teaching assistants to ensure effective class content delivery and timely grading of assignments and exams.
- Held weekly office hours and led multiple lab sections of 25+ students to assist with course topics on data structures and algorithms, object-oriented programming, functional programming, and computer architecture and machine organization.
- Courses Taught:
    - CSCI 1913 - Introduction to Algorithms, Data Structures, and Program Development
    - CSCI 2041 - Advanced Programming Principles (Functional Programming)
    - CSCI 4203/EE 4363 - Computer Architecture and Machine Organization

*IT Student Support Staff - Carlson School of Management* *Sept. 2020 - Jan 2021*

- Responsible for general functionality and troubleshooting of classroom and videoconferencing technology for faculty.
- Maintained sufficient communication with instructors to effectively deliver class content.
- Oversaw computer labs and ensured lab equipment operation.

## HONORS & AWARDS

Medtronic SWEnet Scholarship, Society of Women Engineers Minnesota Section *Fall 2023*
Excellence in DEI Leadership Nominee, UMN College of Science and Engineering *Spring 2023*
Bhimani Family Scholarship Recipient, UMN CS&E Department Scholarship *Spring 2022, Spring 2023*
Dean's List, UMN College of Science and Engineering *Spring 2020, Spring 2023*
Presidential Scholarship Recipient, UMN Scholarship *Fall 2019*

## COMMUNITY INVOLVEMENT

**Association for Computing Machinery**, UMN Student Chapter Co-Treasurer, Student Chapter Member
**Center for Academic Planning and Exploration**, Major Exploration Mentor
**College of Science and Engineering Ambassadors,** First-Year Student Mentor, Student Ambassador
**Minnesota Undergraduate Research and Academic Journal**, Peer Reviewer
**Institute of Electrical and Electronics Engineers**, Student Member
**Society of Women Engineers**, Student Member