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Education
Bachelor of Computer Science, expected May 2024, GPA 3.7
College of Science and Engineering, University of Minnesota-Twin Cities, Minneapolis, MN
Minor in Interdisciplinary Design
Notable Coursework
Fundamentals of Computer Graphics, Animation and Planning in Games, Operating Systems, Machine Architecture, Algorithms and Data Structures, Formal Languages and Automata Theory, Software Design and Development, Functional Programming, Linear Algebra, Discrete Mathematics

Skills
Programming Languages
C, C++, C#, Python, GLSL, Java, Swift, OCaml, Kotlin, Javascript, R, PostgreSQL
Tools and Programs
Unity, Unreal Engine 4, OpenGL, Dear IMGUI, Blender, RenderDoc, Git, Jira, Unix/Bash, Make, GDB/LLDB, Valgrind/leaks, Visual Studio, XCode, LaTeX

Work Experience

Game Developer, University of Minnesota (Summer 2023 - Present)
• Leading the development of a game designed to teach course material to university students using Unity and C#
• Developing custom content authoring tools for gameified course material using C/C++ with DearIMGUI and Metal

Undergraduate Teaching Assistant, Introduction to Data Structures and Algorithms (Fall 2022)
• Led labs, contributed to development of coursework, graded coursework and exams
• Held office hours to teach students course material and help them navigate the computer science program

Prep and Line Cook, Northside Grill (Summer 2021)
• Handled myriad responsibilities in a fast-paced kitchen under the direction of the head cook
• Primarily responsible for cooking on the line and prepping ingredients

Software Development Intern, Advaita Bioinformatics Corporation (Summer 2019)
• Contributed to the development of genetic pathway analysis features for Advaita's iPathwayGuide software using Java, JavaScript, Python, R, and PostgreSQL
• Carried out collaborative software development under AdvaitaBio's lead software developer

Recent Projects
Graphics Programming (2020-Present, both From-Scratch and with APIs) - Real-time raster graphics with OpenGL using ECS architecture, rasterizing renderer, raytracing renderer, 2D primitive collision detection system, Linear Algebra library, BMP image processing library, implementation of image processing algorithms, OBJ mesh loading library, application of linear algebra knowledge, fundamental theories of graphics, new and old graphics pipelines, optimization for real-time rendering

Game Development (2016-Present, both In-Engine and From-Scratch) - Custom 2D and 3D animation systems, FSM-driven input handling and entity behaviour, composition-based design patterns, 2D and 3D combat mechanics, HLSL shaders, spatial partitioning and triangulation for navigation

Interactive Visualization Lab Work (2023-Present, In-Engine) - Unity 3D, C#, Unity HLSL and Compute shaders, development of simulations and interactive mechanics in a 3D virtual environment

Art and Design (2021-Present) - Sketching in 2D and 3D, contour/structure/value drawing, still-life/figure/architectural drawing, traditional and digital illustration, typesetting, letterpress printing, packaging design and construction, bookbinding

Leadership and Activities
Undergraduate Research Assistant, University of Minnesota Interactive Visualization Lab (Spring 2023 - Present)
Officer (Programming Mentor), University of Minnesota Video Game Development Club (Fall 2022, Spring 2023)