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Chase J. Nagle

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Objective

A motivated computer science student with a strong background in software development, eager to expand my knowledge and contribute to innovative projects in a professional environment.

Education

Merced, CA — **University of California, Merced** — **Fall 2024 – Present**

- Major: Computer Science and Engineering
- Ongoing coursework: Probability and Statistics, Algorithm Design and Analysis, General Education courses

Pleasant Hill, CA — **Diablo Valley College** — **Fall 2021 – May 2024**

- Cumulative GPA: 3.6, Major GPA: 3.9
- Transferred to the University of California, Merced in Fall 2024
- Coursework: Calculus I-III, Linear Algebra, Differential Equations, Advanced/OOP C++, x86 Assembly, Algorithms and Data Structures, Discrete Mathematics, Physics I-II

Employment

Programming Tutor/Teacher — **The CoderSchool Berkeley** — **April 2022 – July 2024**

Tutor (Private Lessons)

- Taught Python, Java, C++, C#.NET, Lua, and Scratch to students aged 7–18
- Guided students in developing their own projects, including games, websites, and preparation for AP Computer Science
- Adapted quickly to new software and frameworks to effectively teach students

Classes/Summer Camps

- Instructed classes of 6–13 students (ages 7–15) at the CoderSchool Berkeley location and local schools in the Berkeley area
- Created lesson plans and projects for students
- Cultivated an engaging and supportive learning environment, motivating students to excel

Camp Director (Summer 2023, 2024)

- Managed a team of 3–5 teachers and CITs across two camps
- In Summer 2023, oversaw approximately 150 students during a 7-week camp program

Technical Experience

Projects

- **C++, GLSL; OpenGL Wavefront File Parser**: Developed a 3D renderer using OpenGL. Implemented a parser for Wavefront .obj files, transformations, camera functionality, and the Blinn-Phong lighting model
- **C++, GLSL; Reaction-Diffusion Simulation**: Implemented a reaction-diffusion simulation using C++, GLSL, and compute shaders.
- **Python; Pygame Engine**: Developed a basic game engine in Python using Pygame and utilized it to create a simple platformer game
- **JavaScript, GoLang; Authentication Backend**: Created a website backend using JavaScript, GoLang, MongoDB, and Express. Implemented user authentication and data storage for user information
- **C++, JavaScript; Particle Systems**: Developed multiple particle systems. One system uses a kernel to define attraction rules between particle types, creating complex interactions. Another employs a spatial hashing algorithm developed by NVIDIA, compatible with GPU parallelization to optimize nearest neighbor searches
- **JavaScript; Online Game Engine**: Built by creating an abstraction layer over HTML canvas and input events. Implemented chunk-based tilemap to facilitate multiplayer.
- **JavaScript; TUI Framework**: Developed a JavaScript text-based user interface framework for stylized websites, utilized in creating a portfolio website

Note: Projects are in active development with documentation ongoing. All described capabilities are accurate as of this writing.

Languages and Technologies

- **Programming Languages**: C++, C, Java, C#.NET, Python, JavaScript, GoLang, HTML, CSS, Lua, x86 Assembly
- **Frameworks and Technologies**: OpenGL, React, Node.js, Express, Vite.js, Vercel, MongoDB
- **Tools and Software**: Visual Studio, Unity, Godot, Jetbrains, VSCode, Neovim, Git, GitHub