Ethan Vrhel

425-894-0586 | ethanvrhel@gmail.com

Education

University of Washington, Seattle Campus   2020–Present
- 3.8/4.0 GPA
- Computer science major

University of Washington, Non-Matriculated   2017–2020
- CSE 142, CSE 143, MATH 120, ASTR 101, ASTR 150, ENGL 131, C LIT 240

Eastlake High School   2016–2020
- 3.7/4.0 GPA
- AP Computer Science, AP Calculus AB & BC, and AP Physics 1 & 2
- Robotics Club, Computer Science Honor Society

Work Experience

Undergraduate TA at University of Washington   January 2023–March 2023
- For CSE P 557 - Trends in Computer Graphics

Contract Software Engineer at Artifex Software   July 2021–December 2022
- Refactored code to use in-house XML parser over Expat
- Ported Java interface and PDF viewer to Linux and Mac

Software Engineer Intern at MSNW LLC   July 2021–Aug 2021
- Developed an API for Windows, allowing for a streamlined development process for programmers and scientists looking to make simulations

Contract Software Engineer at Artifex Software   July 2020–Sep 2020
- Developed Java interface for Ghostscript C library using the JNI
- Wrote demo PDF viewer in Java using my interface

Kumon   Sep 2019–March 2020
- Tutored elementary and middle school students and graded work

Projects

Lithium   2019–Present
- 3D Game Engine using OpenGL for Windows
- Pacakged with a C++ scripting API for developers

MatrixUtil   2020–Present
- Linear algebra library for computing matrix, vector, and quaternion calculations
- Support for Intel Intrinsics and ARM Neon for increased performance

[LScript](#)   2020–Present

- Scripting language for application extensions but allows standalone applications
- Mark-and-sweep garbage collector
- Interfacing for linking native functions to LScript functions similar to the JNI

[hexview](#)   2022–Present

- Cross-platform binary command line file reader
- Search for byte and array patterns within the file, of any data type
- Low memory usage on large files by memory-mapping the file

Extracurriculars, Awards & Leadership

Eagle Scout (Boy Scout Troop 751)   2013–2020

- Organized food drive for Issaquah Food Bank, collected over 1000 lbs of food

WSPTA (Washington State PTA) Game Development Competition   2018, 2019

- Created and led team for competition
- Wrote game engine in Java
- Won Best Code award twice

Piano   2008–2019

- Won Paderewski medal from American College of Musicians National Programs

Skills

Technical: Strong C/C++, Intel Intrinsics and ARM Neon, OpenGL and GLSL, Win32 API and Windows Subsystems, POSIX, C#, Java, Python, HTML/CSS, JavaScript, Unity
Interests: Graphics programming and optimization techniques, hardware acceleration, systems programming, programming languages