

# Ethan Vrhel

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## Education

**University of Washington, Seattle Campus** 2020–Present

- 3.79/4.0 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

**Contract Software Engineer at Artifex Software** July 2021–Present

- Refactoring 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

*All written in C++ and not publicly available, unless noted*

**Lithium** 2019–Present

- 3D Game Engine using OpenGL
- [https://students.washington.edu/evrhel/lithium\\_roadmap.html](https://students.washington.edu/evrhel/lithium_roadmap.html)

**MatrixUtil** 2020–Present

- Linear algebra library for computing matrix, vector, and quaternion calculations
- Can use Intel Intrinsics - ARM Neon support in development
- <https://github.com/evrhel/MatrixUtil>

## **LScript (C)**

2020–Present

- Scripting language meant for use in existing applications but also allows for standalone applications
- Garbage collected
- Interfacing for linking native functions to LScript functions similar to the JNI
- <https://github.com/evrhel/lscript>

## **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

- Played for 12+ years
- Won Paderewski medal from American College of Musicians National Programs

## **Skills**

**Technical:** C, C++, Intel Intrinsics, x86-64 Assembly, Win32 API, OpenGL, Qt, Python, MATLAB, LaTeX, JavaScript, TypeScript, React, Object-Oriented and Procedural Programming

**Interests:** Graphics programming and optimization techniques, hardware acceleration, systems programming, programming languages