Malcolm Wetzstein

Software Engineer

Summary

Master of Engineering in Computer Science with equivalent 1.5 years' work experience in software development. Experience engineering solutions to creative and open-ended problems, learning new languages, tools, and methodologies quickly, and working in collaborative teams. Passionate about software engineering, 3D math and physics, algorithm design and analysis, and computer graphics.

Education

06-2018—09-2019

Massachusetts Institute of Technology, Cambridge, MA

MEng in Electrical Engineering and Computer Science
- Thesis: Custom and Interactive Environments in StarLogo Nova for Computational Modeling
- 5.0 GPA

09-2014—06-2018

Massachusetts Institute of Technology, Cambridge, MA

B.S. in Computer Science and Engineering
- 4.7 GPA

Skills

Languages: Javascript, Python, C++, Java, C# | Visual Studio | Git |
GPU Programming: WebGL, OpenGL, DirectX, GLSL, HLSL, Halide |
AR: Unity Game Engine, Vuforia | Code Documentation

Work Experience

01-2015—08-2019

***Student Software Developer** for MIT Scheller Teacher Education Program [StarLogo Nova Project]*

- *Created fallback 3D rendering engine that pre-renders perspective correct sprites for users with low-end hardware*
  - *Diligent documentation of code and interface*
  - *Created software rasterization pipeline from scratch*
- *Rearchitected and optimized WebGL 3D rendering engine*
  - *Located and fixed platform-specific bugs*
- *Created interactive terrain engine*
  - *Custom terrain with user editor*
  - *User programmable interaction between agents and terrain*
- *Created asset pipeline for user uploaded 3D models*
- *Located and fixed bugs throughout codebase from past developers' work*
- *Worked in collaborative team including front-end developers and designers for user documentation and tutorials*

Personal Info

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Coursework

Design and Analysis of Algorithms

Software Engineering

Computer Graphics

Computational Photography (Image Processing)

Shape Analysis (Digital Geometry)

Computer Vision

Computational Fabrication

Intro to Machine Learning

Computer Systems Engineering

Computer Architecture

Visualization and Motion Graphics

Oral Communication

Linear Algebra

Differential Equations

Probability

Multivariable Calculus

Physics I & II