Connor W. Fitzgerald

Highly motivated self-taught programmer. Contributed to many open source projects and has experience with code reviews and the collaborative programming process. Has a particular interest in Graphics, Optimization, Automated Testing, and Tooling.

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https://github.com/cwfitzgerald
https://www.linkedin.com/in/cwfitz/

EDUCATION

05/2021	**Hunter College**
	Anticipated Computer Science BA & Anticipated German BA
	Daedalus CS Honors Program
	Class: CS Capstone
	Implemented rendering library using state-of-the-art gfx techniques.
06/2017	**Quest to Learn High School**
	Advanced Regents Diploma

OPEN SOURCE PROJECTS

gfx-rs/wgpu (https://wgpu.rs)

Member   2020-PRESENT

Mozilla's implementation of upcoming WebGPU graphics api and standard for browsers and Rust users. Added extensions and validation, fixed bugs, reviewed PRs, and helped users write and optimize their code. Upstreamed changes to WebGPU standard. Member of the working group and attended working group meetings.

BVE-Reborn/bve-reborn

Owner   2017-PRESENT

A complete rewrite of OpenBVE Train Simulator using Rust and wgpu. Emphasis on accuracy, designer friendliness, and performance. Renderer features clustered forward lighting, order independent transparency, and GPU light culling.

BVE-Reborn/switchyard

Owner   2020

Realtime focused tasking system. Designed for use in game engines and applications that need close control of task execution order and threading behavior. Provides priorities, thread local data, and multiple pools of jobs.

leezer3/OpenBVE

Contributor   2015-2017

Open source remake of a Japanese train simulator with fan-made routes. Improved C# build system and various codebase improvements. Wrote experimental GL 3.3 renderer.

SKILLS

LANGUAGES	Rust (1yr), C++ (5yrs), C# (4yrs), Python (6yrs), Scala (2yrs), Markdown, GLSL, Kotlin, LaTeX
TECH	Appveyor, Blender, Cargo, CMake, Docker, GH Actions, Jenkins, Linux, Nsight, OpenGL, Perf, Renderdoc, Travis-CI, VTune, Vulkan, Windows
PARADIGMS	Async-Await, Cross-Platform, Concurrency, Coroutines, DoD, Fibers, FP, Fuzzing, OOP, Parsing, SIMD, Realtime, Task Parallelism, Threading, Unit-Testing

COMMUNICATION SKILLS

ENGLISH	Native speaker
GERMAN	Intermediate courses

WORK EXPERIENCE

Middle and High School Math Tutor

CUNY Tutor Corps   JAN – JUN 2019

Tutored public school students in both Math and Computer Science. Assisted teacher with grading, allowing students to get their grade faster. Ran a successful Computer Science lesson.

Programming Intern

Geopipe   JUL & AUG 2018

Built Unity Game Engine plugin in C# to interface with the company's 3D model API. Used caching, asynchronous processing, and efficient data structures to hide network latency in a soft realtime environment.

Video Assistant

Manhattan Youth   AUG 2017 – OCT 2018

Worked with the lead of the video department. Assisted in the editing of various student videos. Filmed events that the video lead could not attend.

Film Intensive Camp Counselor

Manhattan Youth   JUL 2015, 2016 & 2017

Helped with the management and administration of the camp. Taught middle school students how to use their editing software and camera equipment. Produced short documentary films to record the day-to-day events of the camp.