



Charles Wang

zwcharl@gmail.com
(301) 272-5740
linkedin.com/in/zwcharl
charl.sh

Education

University of Pennsylvania · Philadelphia, PA
School of Engineering & Applied Science
Bachelor of Science in Engineering

expected May 2026

GPA: 3.70/4.0

Major: Digital Media Design (Computer Graphics); **Minor:** Design

Projects

Mini Minecraft

Voxel-based C++ game engine using OpenGL. Made from scratch in a team of three. I was responsible for implementing chunking, efficient rendering/face culling, block texturing, day/night sky system, and flood fill lighting.

RCW

Endless Unity minigame inspired by the Stroop test. UI was prototyped in Figma and programming was done in C#. Playable from your browser via WebGL.

charl.sh

Personal website built using Astro and Tailwind CSS. Deployed on Vercel. Fetches recent music listening data and employs server side rendering for improved performance.

sddm-theme-corners

Customizable and user-friendly login screen for SDDM, a Linux session manager. Written with QML and Qt Quick. Has 80+ stars on GitHub.

Experience

Penn Engineering

August 2023 — present

Undergraduate Research Assistant, Full Stack Engineer

- Built and shipped a web platform for Scallop, a Rust-based neurosymbolic programming language optimized for working with deep learning tasks and LLMs.
- Architected RESTful API routes that handle communication between the Next.js frontend, Flask backend, and MySQL database. Uses tRPC and Prisma.
- Implemented OAuth user authentication as well as auth-protected procedures of saving, loading, and publishing of custom user projects from the database.

New America

June — August 2023

build4good Intern

- Overhauled build4good website to be more accessible, including screen reader support, better color palette, and other visibility issues via WordPress and Elementor
- Researched and presented findings for UI/UX regarding interactive geomapping timelines, to be used in New America's *Library Sit-In of 1939* project

Leadership

UPenn Game Research and Development Environment

January 2023 — present

Board, Event Organizer

- Develop and maintain brand identity and design, as well as adapting it across different platforms like social media and our club website.
- Plan and host events such as our school-wide game jam, PAX East field trip, guest speakers, and our semester-long game projects.

UPenn ACM SIGGRAPH Chapter

October 2022 — present

Webmaster, Board Member

- Host tool workshops, talks from industry people and alumni, and demo reel reviews
- Manage and continually update the club website with events and happenings. Written in React and uses Three.js for 3D models

Technical Skills

Languages

C++, Java, JavaScript/TypeScript, C#, HTML/CSS, Python, GLSL

Platforms + Tools

Git/GitHub, Unity, Figma, Illustrator, Blender, Linux, command line

Frameworks + Libraries

React, Next.js, OpenGL, Three.js, Qt, Tailwind CSS, Astro

Relevant Coursework

- Data Structures & Algorithms
- Computer Systems
- Interactive Computer Graphics
- Computational Linear Algebra
- Digital Design
- Drawing

Interests

Open source, game development, web development, UI/UX, functional programming

Running, bass guitar, ricing my Arch desktop, designing album covers, creating Geometry Dash levels