Maxwell Beck

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Education

Computer Science B.S.
Univeristy of Wisconsin-Madison
2021–Present
Expected Graduation 2025

Prairie Ridge High School
2017–2021

Awards

2021 Illinois State Scholar

2020 National Merit Scholarship Finalist

2020 AP Scholar with Distinction

Skills

Programming Languages: Rust, Java, C, C++, JavaScript, TypeScript, Python, GLSL, Mathematica, Assembly

Technologies: Nix, Docker, WebGPU

General: Teamwork, Communication, Work Ethic, Public Speaking, Problem Solving

Languages: Beginner German

Interests

Realtime and Photorealistic Graphics

Mathematics

Electronic Design

Retro Computers

Music Composition and Production

Work Experience

Software Engineering Internship

Stuttgart Inc. – Crystal Lake, IL
Summer 2022

- Maintained and implemented features on existing C and Python codebases
- Implemented software for upcoming products in C++
- Resolved device tree issues for a custom board based on a Variscite i.MX8M MINI module
- Developed for a PIC32 microcontroller using MPLAB Harmony

Engineering Technician (Contractor)

Stryker – Cary, IL
Summer 2021

- Improved test fixture in preparation for product launch by reprogramming in Python and upgrading hardware
- Tested products slated for limited launch
- Helped prepare for lab buildout; moved old equipment into storage
- Assisted with various other laboratory tasks

Projects

Light-Up Name Badge

- Designed a fully custom circuit board utilizing a SAMD21 MCU and WS2813B LEDs in KiCAD
- Programmed with custom Rust firmware based on atsamd-hal
- Implemented various lighting modes including sound reactivity using CMSIS-DSP

Caustic Dreams

Four-kilobyte procedural image

- Implemented a subset of Tizian Zeltner, Iliyan Georgiev, and Wenzel Jakob's *Specular Manifold Sampling* algorithm
- Represented scene geometry using signed distance fields

BS-1

Breadboard Analog Synthesizer

- Researched and implemented various analog circuits, including oscillators, filters, and VCAs
- Used KiCAD to aid overall circuit design