Adam Hathon

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ᚱ https://ahathon.github.io/

Work Experience

Tech-Etch   February 2022 - PRESENT

Automation/Process Engineer

- Designing control boxes for 6-axis robot arms and programing them to automate processes.
- Evaluating manufactured parts and their electrical test data during the manufacturing process and compiling data for the customer.
- Writing in-house software for electrical test equipment.

Tech-Etch   April 2018 - February 2022

Engineering Technician

- Writing in-house software to interface with electrical test equipment.
- Devising solutions for various manufacturing process issues.
- Writing Excel macros to compile electrical test data.

Education

Bristol Community College   2017

As. Engineering Science

Projects

Vision System — Rendering Engine

A tool for point to point measurement of parts using machine vision cameras.

- Rendering engine written in C++, OpenCV and GLFW
- Takes an processes live feed from a machine vision camera over GigE
- Allows for point-to-point measurements and saving screenshots/measurement data.
- Designed for a Linux environment.

Mico-kernel — Custom micro-kernel implementation

A work-in-progress micro-kernel written in C targeting the RaspberryPI (ARM Cortex) hardware.

- Kernel debug printing over UART and framebuffer
- Kernel in higher-half with MMU setup
- Processes created and run in EL0
- Secure monitor setup and configures GIC
- Debug over JTAG

Skills

Programming Languages: C, C++, C#, Java, Python, ARM asm
Tools: IDA, Ghidra, GDB, SolidWorks, AutoCAD
Technologies: OpenCV, .NET, OpenGL/GLFW

Achievements

- Successfully designed a control box, program, and peripherals for a robot cell used to assemble and test medical circuits, merging lay-up and electrical test processes.
- Written several rendering engines in various graphical frameworks, including the Valkyrie Game engine.
- Wrote a micro-kernel for the Raspberry-pi.