Eric Alzheimer

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Education

Master of Science, Computer Science, GPA 4.0/4.0 — Granted May 2017
Rowan University, Mullica Hill, New Jersey

Bachelor of Science, Computer Science, Summa Cum Laude, GPA 4.0/4.0 — Granted December 2013
Rowan University, Mullica Hill, New Jersey

- Nhan Huynh Award for Excellence in Computer Science awarded for Highest GPA in Computer Science Courses and Faculty Recommendation.

Experience

Software Engineer — January 2010 to December 2018
Stepper3 LLC, 4134 Route 130 N, Willingboro, NJ

- The first Software Engineer of this small industrial automation and CNC startup. Developed core in-house products moving the company from 1 major client to 3.
- Developed high frequency real-time motion control firmware for custom embedded systems hardware, consisting of software in C (for Microchip PIC32) as well as some FPGA design in VHDL.
  - Enabled Stepper3 to release its own flagship CNC control system.
  - Achieved sales in the higher-end servo market due to improved performance over previous systems.
  - Expanded Stepper3's market by creating an extensible design that supported customized variations for individual clients with few modifications to firmware.
- Developed a modern front-end interface for Stepper3's CNC control system by integrating Stepper3's custom motion control hardware with industry standard desktop CNC software.
  - Reduced development costs by creating a configurable component-based architecture that supported customization and re-branding for different clients without additional software development.
  - Minimized operator re-training by gathering and incorporating requirements from users of existing CNC systems.
  - Integrations and customizations were implemented using C++, Lua, wxWidgets, C#, WinForms, and TCP/IP.
- Developed firmware (C/VHDL) and a touch-capable interface (C#/WinForms) providing over 10 axes of simultaneous motion for a client's line of paint dispensing and mixing products.
- Developed firmware (C/VHDL) and an interface (C#/WinForms) for a 7 axis, non-destructive X-ray testing system.
- Reduced project management complexity and increased day-to-day efficiency by introducing and maintaining source control (git), document management (Confluence) and build infrastructure.

Open Source Projects

- *FTGL/FTUI:* Developed an OpenGL style API to construct graphics and GUIs with the FTDI FT800 graphics controller. Built for Stepper3 LLC and released under the GNU GPLv3, this library allows for fast iterative touch-screen GUI development on small microcontrollers.

Skills

- *Languages:* C, C++, Python, C#, Lua
- *Technologies:* Microcontrollers, GUI Toolkits (wxWidgets, Win32, WinForms), Linux, git, TCP/IP, OpenGL