David Robins

Noblesville, IN ◦ 317-480-2496 ◦ dbrobins@davidrobins.com

PROFILE

- Experienced embedded/firmware developer and technical manager.

- Programming language expertise: C, C++, Golang, Python, x86/ARM assembler, and C#.

- Proficient at developing on Unix and Windows systems with a variety of build tools (make, scons, git, Subversion, Perforce, Visual Studio, (n)ant, …).

- Deep knowledge of network and communication protocols (I²C, SPI, UART, Bluetooth "Low Energy", USB) and low-power design.

- Open source contributions to projects including Clang (C++), GCC, Linux, pkgconfig, FreeSCI, Nestopia, and Kodi (media center).

- Completing last year of law degree, which has added skills working with clients and considering business objectives from a wider perspective than pure engineering.

EXPERIENCE

Exacq Technologies (Johnson Controls)   Fishers, IN

Manager, Embedded Development; Senior Architect   2015 – 2021

- Develop, test, and release firmware for boards shipped in Exacq systems:
  - USB I/O (UsbDio), PoE boards ("Una"), and M-Series (ARM SoC). *C++, Bash*
  - Analog video capture cards, in-house (tDVR) and OEM products. *C++, Python*
- Responsible for "Edge" products: Exacq Video Management Server running directly on cameras.
- Worked as senior engineer on mobile app for viewing camera streams.
- Architect for Golang rework of local client-server system into distributed broker.

Yikes Corporation (Startup)   Fishers, IN

Senior Manager, Firmware   2014 – 2015

- Managed firmware, system software development, and security for phone-based hotel room access system. *C++, Python, Bluetooth Low Energy, ARM/embedded*
- Designed communication protocols and scheduled development cycles and integration.
- Developed algorithms for proximity, hotel configuration, and capacitance touch detection.

Exacq Technologies (Tyco Security Products)   Fishers, IN

Manager, API & Integrations   2013 – 2014

- Lead a team that developed, supported, and released the ExacqVision Video Management System API used by customers, partners, and the internal web service client. *C++*

- Maintain and add to demonstration projects using the API. *C, C++, C#, Python*

- Implementing automated testing, continuous build integration, and periodic developer technology presentations. *Google Test, Jenkins, Salt*

- Left on good terms and hired back as Embedded Manager after working at a startup.

Freedom Scientific   Pinellas Park, FL

Senior Software Engineer   2011 – 2013

- Architected, developed, and tested a Windows virtual printer driver, protocols, and installer which passes "printed" pages to our scanning and reading applications. *C++, WiX*

- Implemented the PREPARE process in our WYNN™ product, a guided process that helps students write essays. Added a new Notecards document type. *C++, XML, MFC, COM*

- Built internal tools using Python and C#/.NET, including an object model framework generator and web code review tracking application. *Apache, C#/WFC, Python, PostgreSQL*

Microsoft   Redmond, WA

Software Development Engineer   2005 – 2011

- Lead development of file I/O for co-authoring (multiple authors) feature for Word 2010.

- Responsible (area expert and maintainer) for autocorrect (event-based state machine), printing, the object model (VBA interfaces), fields, and online documents. *C++*

- Wrote database tools in for the ECMA OpenXML standardization effort, and a graphical call graph generator. *C#, GraphViz, SQL Server, XML, XPath, XSLT*

- Refactored drawing into an interface to add support for Direct2D printing/display.

Prior Experience

- DSP development environment "Code Composer" (acquired by Texas Instruments).

- Transaction processing for Hilton guest/stay records; PDF generation of guest "folios".

- Medical billing/claims processing for athenahealth practice management.

- Completed Unix server component of messaging facility for stock price updates.

EDUCATION

University of Washington   Seattle, WA

Master of Science, Computer Science & Engineering   2011

Graduated with an overall GPA of 3.9; courses included compiler design (course project, optimization), accessibility, programming languages, and networking.

University of Waterloo   Waterloo, ON

Bachelor of Mathematics in Computer Science, Pure Mathematics minor   2001

Courses taken include real-time operating system design, computer graphics, compiler design, databases, psychology, physics, German and Greek.

Indiana University Maurer School of Law   Bloomington, IN

Juris Doctor   (expected) 2024

Clerked for Federal Judge summer 2022 and law firm summer 2023; improved technical processes.

AWARDS/INTERESTS

- Co-holder of U.S. patent #7,941,399, "Collaborative Authoring" and related patents.
- René Descartes (Canadian Mathematics Competition) Scholarship.
- Embedded projects: Digital Command & Control for model rail, thermostats for house.