Matthew Caron

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https://github.com/mattcaron

Summary:

A perpetual tinkerer, I like building and fixing things. If you want to get an idea of my sense of humor and capabilities, have a look at my thermostat project - https://github.com/mattcaron/thermostat, as that is a better demonstration of how I think than the summary at the top of a resume.

Education:

University Of Rhode Island, Kingston, RI - May 2002
   Bachelor of Science in Computer Engineering, Dean's List, Centennial Scholarship

Skills/Technologies:

Most flavors of Linux, Apache, Security, HTML, JavaScript, Java, LaTeX, C, C++, C#, D, Mono/.NET, Perl, BASH, PHP, Python, MySQL, PostgreSQL, SQLite, Make, git, Virtualbox, VMWare, KVM, OOP Design Patterns, Agile, Logic Analyzers, μC/OS-II RTOS, FreeRTOS, Microcontrollers, Rust, Ansible, Terraform, Kubernetes

Experience:

Rumble / YouTube channel November 2024 - Present

- Attempting to be the Bob Ross of the Internet.

- See for yourself at https://www.joyofnerding.com/

Token November 2022 - August, 2024

- Embedded development - battery charging and power management, LED animations, FreeRTOS, SPI, I2C and BLE communications.

Consulting for various clients December 2020 - Present

- Embedded development - ESP and ATMEGA families, FreeRTOS and Arduino stacks / libraries, MQTT, and serial communications, etc.

- Documentation - FLOSS license analysis, policy documents, etc.

Homeschool Teacher December 2020 - September 2022

- Homeschooling my children

Independent Contractor December 2019 - November 2020

- Vulnerability assessment, penetration testing, Kubernetes, Istio, Ansible, Terraform

Red Lion Controls, Ballston Lake, NY - November, 2015 - December 2019

Senior Software Engineer / Principal Software Engineer

- Lead team developing firmware for industrial sensor modules. (FreeRTOS, C, Rust).

- Developed firmware for ethernet switches and industrial control modules (Linux, C, Perl, BASH) with a specific focus on improving system security.

- Developed firmware for industrial sensor modules. (FreeRTOS, C).

Sixnet / Red Lion Controls, Ballston Lake, NY - November, 2008 - October 2015

Build Engineer / Engineering IT

- Responsible for maintaining and improving automated build systems including cross compilation for firmware and builds on multiple platforms. (GCC, Make, git, GNU autotools, BASH and Perl)

- Developed firmware for ethernet switches and industrial control modules (RTUs). (C, C++, Perl, BASH) with a specific focus on improving system security.

- Bare metal board bringup, validation, and debugging of new hardware. (U-Boot, JTAG).

- Developed automated unit and regression tests. (Perl)

- Performed Trac modifications (plugins, custom code) to optimize for our needs and work flow. (Python, PostgreSQL)

- Deployed virtualization systems to provide on-demand system images for testing and development. (Virtualbox, KVM)

- General engineering-focused IT support and assistance. (Ubuntu, Fedora, MySQL, Perl, exim, cron, BASH)

IMT Services Corporation, Inc., Warwick, RI - October, 2005 - November, 2008

Developer & Systems Administrator

- Wrote and maintained web code (Perl, PHP, SQL, HTML, CSS, JavaScript, XML, SOAP, SVN)

- Maintained existing servers (Suns running Solaris), including hardware replacement, tape backups, system maintenance, application upgrades, etc. (Amanda, rsync, Solaris)

- Wrote specifications and recommendations for purchase of new servers and systems, including planning and executing deployment. (Ubuntu)

- Worked on critical infrastructure redundancy to ensure maximum uptime in the datacenter. (BASH, Perl, MySQL)

- Ensured customer data remained private and secure.

Integrated Solutions, Inc., Phoenixville, PA - November, 2004 - October, 2005

Developer & Technical Writer

- Developed technical documentation specification and wrote technical documentation of existing systems.

- Developed various Web services and servers (daemons) for clients (C#/.NET).

Atlantek, Inc./Zebra-Atlantek, Inc., Wakefield, RI - May 2002 - November 2004

Driver Development Manager (July 2003 - November 2004)
Printer Firmware Developer (Dec 2002 - July 2003)
Printer Driver Developer (May 2002 - Dec 2002)

- Proposed, scheduled and implemented a major revision/rewrite of core product drivers. (C++)

- Responsible for development of embedded firmware applications on various Motorola (Freescale) processors, interacting with sensors, motors, and heaters, as well as USB and Ethernet interface firmware/driver (C)

- Responsible for developing, testing and troubleshooting custom printer drivers for photo ID printers. (C++)

References available upon request.