

Nathan Genetzky's Resume

Software and Hardware

Nathan Genetzky

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Career Profile

- Electrical Engineer graduate with honors distinction.
- Worked as independent contractor twice during college.
- Experience working as software engineer for two years during college.
- Learned Android, Python, Git and Linux command line tools from on-line tutorials/videos.

Contact

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Experiences

Senior Software Engineer ESW Team at Appareo Systems (12.2021 - PRESENT)

- Performed board bring-up for custom PCB with heterogeneous SOC (IMX8DXL).
- Integrated drivers for cellular modems, WiFi, and bluetooth.
- Setup dockerized Jenkins with both manual and GitOps centric builds.
- Utilized Gitflow including automated build and deployment of releases.
- Developed and utilized HIL testing with Labgrid on RPI4.
- Generated SDKs and docker images for quick cross-compilation of C++ Applications.

Software Engineer 1 System Team at Vaddio (05.2017 - 12.2021)

- Working with FPGA and python developers to create an integrated embedded system that routes audio and video signals in professionally built AV systems.
- I help to build a custom Linux distribution from the ‘/’ up with the Yocto Project.
- Our team uses many other tools during development such as Jenkins, Jira, Git, Bitbake, and Puppet.

Software Engineer Dojo Five (11.2018 - 12.2021)

- Develop embedded software for Particle, Nordic, and STM32 microcontrollers
- Utilized custom hardware with the Particle platform for a custom door access solution
- Developed with NRF52 SDK to create devices in a complex robotic system with BLE services

Student Intern Hardware Design at Daktronics (05.2016 - 05.2017)

- Developed C++ code for communication with I2C sensors from a Linux system.
- Developed a C++ library that simplifies usage of librrd, a C library for creating, updating, and using RRDs (Round Robin Databases).
- Used Test Driven Development to implement library, used CxxTest Framework.

Projects

Hardware Integrated Prototyping Environment at SDSU Engineering Expo

- Nathan Genetzky, Jordan Ulmer, Tanner Johnson (SDSU, 2017)
- <http://academic.genetzky.us/project/sdsu/2017-hipe/>

Design and Verification of a SPI to JTAG Interface Adapter

- Nathan Genetzky, Jordan Ulmer (SDSU, 2017)
- <http://academic.genetzky.us/publication/sdsu/2017-05-05-ee492-spi2jtag/>

Interactive User Interface with PIC18 Microcontroller

- Nathan Genetzky, Drake Jenö (SDSU, 2017)
- <http://academic.genetzky.us/publication/sdsu/2015-05-01-ee347-interactive-ui-with-pic-microcontroller/>

Particle Projects

- Firmware for micro controllers sold by particle.io for use with wifi or cellular cloud devices.
- <http://academic.genetzky.us/project/particle-projects/>

Skills & Proficiency

- Yocto (Build System, Embedded Distro, BSP Support) (90%)
- Developer Tools (Docker, Jenkins, Git) (85%)
- Terminal Workflow (Vim, GNU tools, shell scripting) (85%)
- Linux Kernel (Drivers, Config, BSP) (55%)
- Python Middleware (DBus, REST, GObject, threading) (35%)
- FPGA Development (SW Interface, Reusable Verilog, Automated Builds) (25%)

Education

BS Electrical Engineering South Dakota State University (2012 - 2017)

Minor Software Engineering South Dakota State University (2012 - 2017)

Lauguages

- Bash (~7 years)
- Python (~5 years)
- Cpp (~6 years)
- C (~4 year)
- Dockerfile (~2 year)
- Java for Android (~1 year)

Interests

- hobby-electronics, home automation, embedded-linux
- ice and rock climbing
- snowboarding and skiing
- gardening, cooking
- jetsking, boating, water skiing
- camping, kayaking, volleyball