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 Jeno (SDSU, 2017)
* http://academic.genetzky.us/publication/sdsu/2015-05-01-ee347-interative-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