John Van Strien

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CAREER SUMMARY

- Professional software developer passionate about designing and creating well crafted software systems
- Experience in embedded system design
- A demonstrated ability to quickly learn and apply new technologies and concepts, and easily adapt to change
- Naturally inquisitive, with strong debugging skills
- Strong interpersonal skills; excellent oral and written communication skills

TECHNICAL SKILLS

- **Programming Languages** — Java, C++, Javascript, HTML, CSS, Kotlin (learning)
- **Development Tools** — Android Studio/IntelliJ IDEA, Xcode, Visual Studio Code, Git, SourceTree, OmniGraffle
- **Methodologies** — OOP, UI/UX, Distributed Source Code Version Control, Schematic Capture, PCB Layout
- **Operating Systems** — Proficient: OSX, Windows; Familiar with: Linux
- **Platforms / Frameworks** — Mobile (Android), Embedded systems (ARM Cortex-M4 and Microchip Technologies PIC), Desktop (OSX and Windows), Web (NodeJS, HTML, CSS, JS, jQuery)
- **Communication Protocols** — Bluetooth, USB, I²C, SPI, RS-232, RS-485
- **Hardware Design/ Debug Tools** — Agilent Mixed Signal Oscilloscope, Logic Analyzer, In-Circuit Emulator

PROFESSIONAL DEVELOPMENT

Sep 2016 - Present — *Lynda.com* **(MOOC Platform)**

- Numerous courses covering HTML, CSS, Javascript / ES6, NodeJS, MongoDB, Git and Kotlin

PROFESSIONAL EXPERIENCE

Mar 2016 – Present — **Freelance Engineer, Eugene, OR**

- Replaced three deprecated or stale libraries (Roboguice, ActionBarSherlock and ViewPagerIndicator) in ZLS Android app with current libraries and native features.
- Developed a temperature controller for a wood stove, based on an ARM Cortex-M4 microcontroller and written in C++. The hardware consists of a stepper motor, a small blower, two thermocouples, a through-beam sensor and a potentiometer.
- Stepper and blower control systems both have manual and automatic modes.
- Integrated and modified 3 existing libraries to add the following functionality: thermocouple interface (SPI), serial command parser and motor controller (stepper and brushless DC) (I2C).
- Created a desktop GUI app to serve as an interface for the controller, allowing the user to monitor and control it. The app is based on Electron, a NodeJS based framework, using HTML, CSS, JS and node modules (including C++ modules). The app communicates with the controller via USB.

Oct 2014 – Feb, 2016 — **Freelance Engineer, Petaluma, CA**

- Developed the embedded electronics and firmware for an LED sculpture with numerous light patterns, including sound responsive (using FFT), utilizing C++ on an ARM Cortex-M4 microcontroller
- Created an Android (Java) application designed to control the sculpture via Bluetooth
- Employed git for both the firmware and Android code, including online repositories
- Designed and fabricated a PCB to integrate the electronic components
- Designed an aluminum core PCB for high powered lighting LEDs
- Maintaining ZLS gravity meter Android (Java) app

Aug 2009 – Sept 2014 — **ZLS Corporation, Austin, TX/Petaluma, CA**

Electrical Engineer and Software Developer

- Developed an Android application used to control the company's portable land-based gravity meter, based on a Palm OS application
- Worked with internal users to design and create a more efficient UI and time-saving calibration features
- Developed wireframes and managed software development team
- Conducted testing and debugging
- Employed git for source code version control
- Designed and modified cables and/or laid out PCBs for both land-based and air/sea gravity meters to accommodate new features, ease assembly and minimize complexity

- Managed the build of all land-based gravity meter PCBs and cables, including parts selection and procurement, and communicating with outside vendors

April 2004 – Aug 2009 **Freelance Electrical Engineer, Austin, TX**

- Designed printed circuit boards for semiconductor-handling equipment, including component selection, schematic capture and PCB layout
- Designed system cable assemblies and supervised production of first articles with outside cable manufacturer

Jan 2001 – April 2009 **Metal and Glass Artist, Austin, TX**

- Designed and fabricated metal and glass functional and decorative custom-made pieces; exhibited in numerous art shows
- Member of Balcones Forge Blacksmiths of Central Texas; participated in public demonstrations of traditional blacksmithing techniques
- Extensive training in metal art production at Austin Community College and glass art production at Corning Museum of Glass

March 1991 – April 2000 **Progressive System Technologies/Asyst, Austin, TX**

Electrical Engineer

- Designed electronic hardware and firmware (assembly language) to control numerous pieces of semiconductor-handling equipment
- Hardware design included circuit design, component selection, schematic capture and PCB layout, and test and debug of discrete circuits and embedded PIC microcontroller-based systems
- Experience driving several types of motors and solenoids, and reading different types of sensors
- Firmware design included logic design, code generation, and test and debug, including in-circuit emulation, for PIC and Z-World microcontroller-based systems
- Developed numerous drivers in assembly and C
- Communication protocols worked with include RS-232, RS-485 and I^2C
- Wrote system communication specifications, system user documentation and maintenance procedures

Feb 1990 – Jan 1991 **Computer Algorithm Development, Austin, TX**

Software Engineer

- Integrated several software components of a custom machine vision system with a commercial robot
- Designed, wrote and debugged utility applications
- Documented vision system software

Sept 1988 – Dec 1989 **Freelance Motion Picture, Los Angeles, CA**

Camera Assistant

- Performed 1st and 2nd cameraman assist duties on several motion pictures

Jan 1984 - Sept 1988 **National Security Agency, Ft. Meade, MD**

Electrical Engineer

- Security Clearance: TS/SCI (Inactive)
- Designed, built and debugged digital and microprocessor-based systems
- Designed, wrote and debugged firmware

EDUCATION

- BS, Electrical Engineering, North Carolina State University, Raleigh, NC, 1983
  Senior Design Project: Designed a pulse width modulated motor speed control system

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INTERESTS & HOBBIES

- Dance/Movement, consciousness, motion capture, immersive and responsive experiences, generative art, data visualization, blockchain / distributed ledger systems, permaculture, photography, FAA Certified Private Pilot (with IFR)