John Van Strien
360 W. 23rd Ave
Eugene, OR 97405
(512) 657-7041
john@johnvanstrien.com

CAREER SUMMARY

- Accomplished embedded electrical engineering professional with a strong software background
- Experienced in printed circuit board design, embedded systems (hardware and firmware design), software development and system integration
- 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	C/C++, Java, Javascript, NodeJS, HTML, CSS, PIC Assembly Language
Development Tools	Android Studio/IntelliJ IDEA, Xcode, Atom, Git, SourceTree, Protel SE99, OmniGraffle, AutoCAD, VMWare Fusion
Methodologies	OOP, UI/UX, Source Code Version Control/Distributed Revision Control, Schematic Capture, PCB Layout
Operating Systems	Proficient: OSX, Windows; Familiar with: Linux
Platforms	Desktop (OSX and Windows), web (HTML, CSS, JS, jQuery), mobile (Android), embedded systems (ARM Cortex-M4 and Microchip Technologies PIC)
Communication Protocols	Bluetooth, WiFi, I^2C, SPI, RS-232, RS-485
Hardware Design/ Debug Tools	Agilent Mixed Signal Oscilloscope, Logic Analyzer, In-Circuit Emulator

PROFESSIONAL EXPERIENCE

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

- Developed a wood stove temperature controller, based on an ARM Cortex-M4 microcontroller and written in C++. The hardware consists of a stepper motor, a small blower, two thermocouples, a home 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.
- Maintaining ZLS gravity meter Android app

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
- Additionally, 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 create a more efficient UI design and add time-saving calibration features
- Developed wireframes and managed software development team

- Conducted testing and debugging
- 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 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

INTERESTS & HOBBIES

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