Nolan Chang, EIT

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Education

California State Polytechnic University, Pomona — Pomona, CA
Bachelor in Computer Engineering; GPA: 3.41/4.0 — *Sep 2014 - May 2019*

Relevant Coursework: Object-oriented programming, algorithms, operating systems, data structures, CPU design and scheduling, circuit analysis, logical and sequential circuit designs, microcontrollers, FPGAs, control systems, power, signal processing, lighting and illumination engineering

Skills

- **Programming Languages**: C++, C#, Verilog, Python
- **Technologies**: PSPICE, Vivado, Github, PyCharm, Visual Studio, Matlab, Jupyter, Photoshop, Solidworks, AutoCAD

Experience

Triple Dot Corporation — Santa Ana, CA
Machine Engineer — *Jun 2018 - Aug 2018*

- **Maintenance and Optimization**: Maintained and improved electrical and mechanical components of hard-shelled plastic bottle manufacturing machines
- **Quality Control**: Ensured bottles met the industry standards from the production line

CyberPowerPC — City of Industry, CA
Marketing Associate — *Mar 2016 - Jun 2018*

- **Testing**: Tested different computer products for performance and benchmark comparisons
- **Electronics and Computer Conventions**: Worked at booths during electronic and gaming conventions by demonstrating virtual reality systems such as the HTC Vive and Oculus Rift as well as demonstrated high-end computer systems
- **Technical Writing**: Contributed technical writing pieces for CyberPowerPC computer and electronic products on Amazon, Walmart, Best Buy, and other retailers
- **Blog**: Maintained and contributed articles about the computer industry for the CyberPowerPC blog

Projects

- **ZYNQ S-Curve Motion Controller with Configurable Kinematics**: Python, Verilog, C
  - Created an open-source, multi-feature motion controller with user-definable kinematics seeking to improve the flaws of industrial and open-source motion controllers
  - Highly optimized S-Curve motion profiler, trajectory planner and PWM pulse generator using a combination of Verilog, Python, and C
  - Implemented homing logic and a safety supervisor
  - Functional prototype implemented on the PYNQ FPGA board
  - Chosen as the sole representative of the ECE Department at the Cal Poly Pomona 2019 College of Engineering Showcase
- **Scantron Scanning and Grading Application using Image Detection**: Python
  - Reads in an answer key and scantron submissions and outputs questions marked incorrectly using Python 3 with OpenCV
  - Uses image detecting parameters to read an image preferably in grayscale
  - Adaptive thresholding applied on a pixel-to-pixel basis to accurately display outlines
  - First implementation uses AND to superimpose both scantrons onto a single image for comparison
  - Second implementation uses XNOR to detect differences in the image, additional adaptive thresholding for enhancement, and a Gaussian blur to remove noise for blob detection
- **Errors and Problems in Software**: C++, Python
  - Explored and tested computation errors in different applications, primarily, floating point operations in Visual Studio C++, floor() in MATLAB, and computations with leading zeroes in Python 2.7.2

Certifications & Skills

- Certified Engineer-in-Training for Electrical and Computer Engineering
- Certified Solidworks Associate (ID: C-JGF9Y4MEA5)
- Spoken Languages: English, Mandarin Chinese