

Nolan Chang, EIT

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Github: github.com/nychang1/Resume-and-Projects

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, SQL
- **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

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

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
- **Grades on a Standard Bell Curve:** C++
 - Generates IDs and randomized scores for n amount of students specified by the user stored in an array
 - Calculates the mean and standard deviation of all the scores
 - Assigns a grade value to the students on a standard bell curve

CERTIFICATIONS & SKILLS

- Certified Engineer-in-Training for Electrical and Computer Engineering (ID: 168007)
- Certified Solidworks Associate (ID: C-JGF9Y4MEA5)
- Spoken Languages: English, Mandarin Chinese