Chris Nelson – Software Engineer

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SUMMARY

Passionate tech nerd with 4 years of undergraduate experience in building data structures, programming solutions to problems, and collaborating with peers. Ready to work, learn, and grow as an individual. Proud SCU Bronco Alumni and lover of dogs.

EXPERIENCE

Software Engineering Intern
Festo, Industrial Robotics & Automation **July 2019 - June 2020, Livermore, CA**

- Redesigned and built a Python tool to test and calibrate a high accuracy pneumatic device.
- Reduced testing time from 2 hours down to 20 minutes by streamlining the user interface and parallelizing the code dealing with I/O.
- Created sub-modules to completely automate logging of data for certain tests.
- Further developed skills working with people and communicating effectively within a team.

Technical Support Specialist
Self Employed **June 2017 - July 2020, Lafayette, CA**

- Provided onsite IT help to local clients by migrating old photos & data, updating and debugging software, troubleshooting hardware, and ensuring a better overall user experience.
- Built trust by communicating technical information to clients at their level of understanding.
- Taught programming basics by helping kids build an interactive game using Python.
- Repeatedly commended for being friendly, informative, and helpful.

PROJECTS

Basil Bot
SCU Senior Design • September 2019 - June 2020

- Created a proof of concept pick and place robot with a multidisciplinary team of Software and Mechanical Engineers.
- Implemented computer vision algorithm (using OpenCV) to find and trace basil leaves in an image with 99% accuracy.
- Program implementation was designed with scalability in mind.
- Developed a communication protocol between systems running on an Nvidia Jetson Nano PCB and Raspberry Pi to convert program coordinates to real world points with the goal of autonomously picking and placing leaves on a production line.
- Published a Thesis Paper and presented the project at the SCU Senior Design Conference.

Movie Recommender System
SCU Web Information Management • May 2020

- Created a recommendation system with a scalable architecture using common search engine algorithms.
- Implemented both User and Item Based Collaborative Filtering with a max accuracy score of 98.8% accuracy against test data.
- Used Pearson similarity along with Inverse User Frequency to improve results from baseline 80% using Cosine similarity.

Predictive Text Editor
Personal • July 2020

- Built a text editor with autocomplete suggestions as the user types.
- Used Google n-gram's database of top 10,000 common words to offer continuously updating suggestions.
- Implemented extensive NumPy Library for optimal performance with simple building blocks.

Peer to Peer File Sync CLI
SCU Computer Networks • March 2019

- Built a low latency peer to peer file syncing command line application to sync specific files between a list of peers using a TCP connection and socket programming concepts in C.
- Collaborated with a team designing, diagraming, and implementing the project from the ground up.
- Improved team communication and debugging skills after many late nights spent fixing bugs.

EDUCATION

Bachelor of Science in Computer Science & Engineering
Santa Clara University • Santa Clara, CA • 2020 • 3.4

SKILLS

Technologies/Frameworks: Git, NumPy, OpenCV, Tkinter
Languages: Python, C, C++, Java