Tyler Bowes

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SKILLS

Python | Java | C | SQL | Git | PHP | pandas | numpy | nltk | Ubuntu | Raspberry pi | Debugging | Problem Solving | Communication | Project Management | Documentation

EDUCATION

Boise State University, Boise, ID
Bachelor of Science, Computer Science

Relevant Coursework: Software Engineering, Agile Development, Software development in C, Web Development

EXPERIENCE

Onsemi (Pixel Optics Intern) **May 2023 – December 2023**

- Utilized metric that determines the contrast and sharpness of an image (MTF/SFR) to collect MTF data from captured and simulated images.
- Developed methodology and tool to automate the extraction of MTF/SFR data for image sensor pixel arrays from captured images based on the International Organization for Standardization (ISO) 12233:2023 document that shows good match to professional organization's, Imatest, extracted MTF data of the same image.
- Thoroughly documented Python scripts along with a descriptive user manual providing Onsemi with further insight of the methodology used to obtain MTF/SFR from applying ISO 12233.
- Developed scripts to interchangeably transfer RGB color description data into the standardized CIELAB and CIEXYZ color spaces to evaluate and verify color consistency.

Curtis Instruments (Application Engineer Intern) **May 2022 – August 2022**

- Developed C++ modules for motor speed-based controller vehicle systems using object-oriented programming.
- Created software utilizing PDO communication between CAN buses that verifies consistent and accurate transmissions within 100ms to meet new safety requirements for the international market.
- Developed forklift class to organize methods that perform specified mechanisms, utilizing the grouping solenoids.
- Designed flowcharts and produced unit tests for each program.

Part-of-Speech Tagging (PYTHON) **January 2023 – February 2023**

- Implemented Hidden Markov Model utilizing a greedy decoder.
- Demonstrated above 90% part-of-speech sentence accuracy from managing training data, creating transition and emission probability methods, to analyze testing data.
- Maintained readable code with nicely formatted markdown cells and comments inside a Jupiter Notebook.

Bioinformatics DNA Sequencing (JAVA) **April 2022 – May 2022**

- Formed a BTree data structure using Java with the DNA sequences from a GeneBank file by NCBI (National Center for Biotechnology Information).
- Parsed a DNA sequence creating subsequences of dynamic lengths to store into nodes inside the BTree.
- Implemented search algorithm, utilizing a cache for performance enhancements, to determine the frequency of subsequences, evaluating whether specific subsequence have more occurrences in a DNA sequence.

V.I.P. (Virtually Integrated Project) - Autonomous Robotics **August 2020 – October 2021**

- Worked in a multi-disciplinary team to design and build an autonomous robot for Summer 2022 competition.
- Brainstormed and implemented ideas for various aspects of the program including path finding, path planning, and application of lidar technology.
- Utilized Raspberry Pi to run ROS (version Noetic) through operating system, Ubuntu.