Tyler Chism

Software Engineer

Detail oriented, first principles thinker always looking to improve my skill-sets and contribute to the world producing useful technologies that push the boundaries of innovation by collaborating with other like-minded engineers.

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WORK EXPERIENCE

Software Engineer, Calibration
Magic Leap

08/2021 - Present

Tasks:

- Make software tools for camera calibration for AR device to assist computer vision team.
- Use microcontrollers, motion capture systems, and AR device along with python and C to create embedded software and post processing pipelines for syncing time between devices.
- Use computer vision concepts and debugging skills to troubleshoot hardware and software camera calibration and time synchronization issues.

Data Collection Engineer
Magic Leap

01/2020 - 08/2021

Tasks:

- Used python, docker, command line, shell scripts, linux, Google Cloud etc. to record, process, manage, and post process data.
- Assisted computer vision team by collecting ground truth data for algorithm development and testing.
- Used motion capture, LiDAR, survey equipment, AR devices, and various robotics to collect data under a multitude of conditions.

Guidance Engineer
Inrock Drilling Systems

05/2018 - 05/2019

Tasks:

- Use Vector Magnetics software to collect and analyze data from the probe of a horizontal directional drilling bore.
- Find patterns from data to guide drill stem so that bore path stays within strict location and turn tolerances.
- Troubleshoot hardware and data integrity issues while maintaining good relations with client within tight time constraints.

Quality Lab Associate
Baxter Healthcare

04/2017 - 05/2018

Tasks:

- SME for the implementation of new Lab Information Management System software that replaced paper processes.
- Extensive hands on training in wet and dry chemistry for quality control testing of polymers, and other raw materials.
- Operated and maintained Gas Chromatograph for ethylene oxide residuals testing for quality control adhering to strict FDA regulations.

SKILLS

python | docker | Linux | Git | electronics | C++ | Google Cloud | Materials Science | Semiconductors | 3D Mapping | Data Integrity | Rapid Prototyping | Motion Capture

PROJECTS

GUI for AR Data Collection (04/2021 - Present)

- Created GUI for data collection at magic leap. GUI interfaced with motion tracking software as well as AR device API to assist users in collecting data with the device and managing meta data and uploading to the cloud.
- Used OOP in python along with Kivy framework to create the multi-platform application.

Automate Point Cloud Rendering (09/2020 - 11/2020)

- Use open source point cloud renderer Potree along with nodejs, npm, and docker to make a dockerized Ubuntu that converts native point cloud data from lidar into a format that Potree can use.
- Docker image will automatically convert files then create webpage that can be viewed locally on a web browser using the Potree application.

Rapid Prototyping for Robotic Collection (08/2020 - 08/2020)

- Used Arduino servo with 80/20 bar and pulley components to quickly build a robotic track system for special image capture data collection request.
- Created script using python and Arduino to automate collection with track setup.

Data Conversion Pipeline (11/2020 - Present)

- Develop and maintain Dockerfile and python scripts for a data post-processing job that runs on the cloud as a runtime job.
- Conversion job uses Ubuntu image along with OOP python scripts to convert raw data from AR device sensors as well as motion capture cameras into data format that is consumed by computer vision customers.

EDUCATION

M.S. Microelectronics-Photonics
University of Arkansas

05/2014 - 05/2016 *GPA: 3.8*

Thesis:

- "Investigation of Optical Properties of Zinc Oxide Photodetector"