Tyler Chism

Data Collection Engineer

detail oriented, first principles thinker always looking to improve my skill-sets and contibute 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

Data Collection Engineer
Magic Leap

01/2020 - Present

Tasks:

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

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 and create algorithms based on data to inform drill operator how to steer drill stem so that bore path stays within location and turn tolerances.
- Troubleshoot probe signal and data integrity issues while maintaining good relations with contractor within tight time constraints.

Quality Lab Associate
Baxter Healthcare

04/2017 - 05/2018

Tasks:

- Assumed role as SME for the implementation of new Lab Information Management System (LIMS) software that replaced paper processes with an integrated global system.
- Extensive hands on training in wet and dry chemistry for quality control testing of polymers, dyes, oils, and other raw materials.
- Operated and maintained Gas Chromatograph and related software for ethylene oxide residuals testing for quality control of manufactured lots adhering to strict FDA regulations.

EDUCATION

M.S. Microelectronics-Photonics
University of Arkansas

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

Thesis:

- "Investigation of Optical Properties of Zinc Oxide Photodetector"

SKILLS

Docker | Python | Linux | Git | GitHub | Motion Capture | Google Cloud | Command Line | C++ | Materials Science | Semiconductors | GIS | 3D Mapping | Data Management | Spatial Computing | Surveying | Rapid Prototyping

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.

Multiple Ground Truth Mapping (05/2021 - Present)

- Use total station and survey equipment to provide third layer of ground truth data to spatial computing device.
- Make CAD designs and use hardware and tools to manufacture targets that can tie together motion capture ground truth tracking data with Lidar and total station ground truth sources.

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.

ACHIEVEMENTS

Overall success

Recognized in all previous jobs as someone that each team would like to have back anytime as a result of my work ethic and excellent interpersonal skills.

Specially selected at Inrock

selected as one of the trainers for a new hire before leaving the company at Inrock so as to impart good client communication and stress management practices on the job.

Data Management at Baxter Healthcare

completed the transfer of quality control lab data to electronic lab information management system (LIMS) as SME for the project five months ahead of schedule.