Cole Kingery

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Education

Purdue University — **West Lafayette, IN**

Bachelor of Science Computer Engineering with Certificate in Entrepreneurship — ***August 2020-May 2024***

- Overall GPA: 3.65/4.00

Master of Science Electrical and Computer Engineering — ***August 2023-May 2025***

Professional Experience

Torc Robotics – MLOps/Data Science Intern — ***May 2023 – August 2023***

- Evaluated and improved machine learning models to replace AWS annotators reducing costs by 12.5% per label.
- Utilized confusion matrices to see where model was failing which was used to strategize and implement new model training techniques by examining data used and previous model failures.
- Queried data using SQL from AWS Athena to be used in model development.
- Performed quality control in AWS SageMaker to validate annotations from AWS and developed scripts to ensure data upload was performed and sent to the correct locations in S3.

Stellantis (Fiat Chrysler) – Lidar/Data Management Co-op Auburn Hills, MI — ***January 2023 – May 2023***

- Created a Lidar-to-Lidar finetuning software using Open3d, OpenCV that allows the team to give calibrated data to our annotation supplier.
- Managed vehicle camera calibration. OpenCV camera calibration, to lidar-camera calibration ensuring data collection vehicles had usable data. Leading international cooperation between 3rd party companies and internal acquisitions for camera and lidar calibration.
- Produced Bash scripts for data quality checking for on-premise servers, performing mass data checks at once. Constructed Airflow DAGs for scheduled data quality checks.

Stellantis (Fiat Chrysler) – Machine Learning Co-op Auburn Hills, MI — ***May 2022 – August 2022***

- Utilized Deep Neural Networks in TensorFlow to model a neural network to be used in road spotter detection. Aiming to aid those driving and providing road spotter signals. Achieved through OpenCV, CNN, DNN, object and pose detection.
- Increased efficiency by engineering data pipelines for neural network model training.
- Implemented the spotter detection model on android using TensorFlow Lite.

Stellantis (Fiat Chrysler) – Software Modelling Co-op Auburn Hills, MI — ***August 2021 – December 2021***

- Complete development of a software for a Wireless Charging Module: Initial engineering report, Simulink development, Unit testing and functionality testing.
- Completed System Behavior Testing (SBT) and unit testing on the software to ensure all program factors were tested and modeling standards were met.

Twigg Aerospace Components – Internship Martinsville, IN — ***June 2018 – August 2018***

- Developed Electronic Machine Tooling Control System - Allowed Tooling to be easily located in case of an audit, beginning of our 5S system of organization.
- Created a controlled environment for CNC machines to maintain tight tolerances on aircraft components.

Technical Skills

- Languages: Python, C, C++, Bash, SQL
- Machine Learning: TensorFlow, Pytorch, CNN, OpenCV, Open3D, Object Detection, Linux
- Python: Data Processing/Pipelining, Pandas, NumPy, Quality Control

Projects

- Development of Object Detection Training Pipeline
  - Utilized Python for annotating and organizing images to be used in Object Detection model training
  - Implemented Python Pandas to extract data from .csv files and edit xml data
- Created Data Dashboard for vehicle annotation analytics using json schema and plotly
- Currently: Building a Compiler

Involvement

Purdue Professional Ambassador's West Lafayette, IN — ***Spring 2022 – Present***

- Mentorship Program Director — ***Spring 2022***