YUMING GU

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EDUCATION

M.S.E., Computer and Information Science (CIS) Graduating May 2025
University of Pennsylvania, Philadelphia, PA
M.S.E., Mechanical Engineering and Applied Mechanics (MEAM) Graduating May 2025
University of Pennsylvania, Philadelphia, PA
B.S., Mechanical Engineering Graduated May 2022
University of Pittsburgh, Pittsburgh, PA
B.S.E., Mechanical Engineering Graduated May 2022
Sichuan University, Sichuan, China

TECHNICAL SKILLS

CS: Python/MATLAB, C/C++, Typescript/JavaScript/NodeJS, Java, SQL/Spark, Docker/Kubernetes , AWS/Azure

EXPERIENCE

Amazon Web Service (AWS), Seattle, WA: Software Dev Engineer Intern (AWS) May 2023 – Aug 2023

- SDE Intern at AWS Fraud Prevention Engineering Team.
- Build an auto admin mechanism to perform back fill for Region Build Automation.
- Project Includes Amazon S3, Amazon Lambda, Amazon Dynamodb, Amazon ECS, Amazon SQS/SNS, IAM/KMS

Tesla, Shanghai, China: Mechanical Design Intern (Chassis System) May 2021 – Aug 2021

- Chassis System Intern at Tesla GigaFactory Shanghai (GFSH) R&D Engineerng Team
- Conduct Surface Design on Knuckle, design a Hub & Bearing assembly fixture for slurry test (CATIAv5)
- Designed a test platform and test plan for the brake assembly (3D Experience).
- Modified slinger makes great effect on blocking debris and reduces Vehicle off Road (VOR)

ACADEMIC PROJECTS

Online Payments Fraud Detection (CIS 545 Big Data Analytics) Spring 2024 – Summer 2024

- Develop a classification model capable of accurately predicting fraudulent transactions.
- Project Includes EDA, Regex, SQL/Spark, Logistic Regression, Random Forest, XGBoost and ROC-AUC

PennOS: A User-level UNIX-like Operating System (CIS 548 OS Design) Spring 2023 – Summer 2023

- Implement a FAT file system to keep a track of the blocks in the data region.
- Implement shell built-ins run as independently scheduled PennOS processes.
- The PennOS includes kernel thread scheuler, user shell, job control, redirection and logger.

An Autonomous VIO-based Quadcopter (MEAM 620 Advanced Robotics) Spring 2023 - Summer 2023

- Plan trajectories given ground-truth states of the robot and track them accurately (Dijkstra's algorithm/ A-star)
- Estimate robot's state given noisy sensor measurements (Visual Inertial Odometry)

Pick and Place Challenge (MEAM 520 Intro to Robotics) Fall 2022 - Spring 2023

- Develop robust algorithm for Franka Emika robot arm to acquire blocks (either stationary or in motion) and stack them on a goal platform (forward and inverse kinematics, ROS, Dijkstra's algorithm/ A-star, DH Algorithm)

ML-Based Multi-Objective Recommender System (CIS 520 Machine Learning) Fall 2022 - Spring 2023

- Develop recommender system based on Matrix Factorization and XGBoost Models to guide the customer to exact item based on their previous actions

Interferometry measurement system for Photopolymer 3D Printing (ZIP - AM Lab) Fall 2020 - Spring 2022

- Analyze raw data from interferograms video from ICM & M system, evaluate the cure height profile, remove outliers

RoboMaster University Competition (RMUC) Fall 2019 - Summer 2021

- Conducted chassis design of Sentry robot, analyzed loading performance (SolidWorks/Ansys)
- Realize visual identification, tracing, attacking functions of the Sentry Robot (PID, OpenCV, PP-YOLO)