GEORGE CHEN

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EDUCATION

Massachusetts Institute of Technology **Cambridge, MA**
Candidate for M.S. in Mechanical Engineering, Concentration in Robotics ***Expected Jun 2022***
B.S. in Mechanical Engineering, Minor in Computer Science | GPA: 4.9/5.0 ***Jun 2021***
Relevant Coursework: Robotic Manipulation, Underactuated Robotics, Advanced Dynamics and Control, Analysis and Design of Feedback Control Systems, Signals and Systems, Introduction to Algorithms, Artificial Intelligence, Numerical Computation, Introduction to Machine Learning, Electronics for Mechanical Systems

EXPERIENCE

SpaceX **Hawthorne, CA**
Associate Hardware Test Software Engineer ***Jun 2021 – Aug 2021***
- Designed, simulated, and commissioned an automated calibration station, using 6DOF ABB industrial robots and test chambers, for high-volume production of Starlink user terminals
- Programmed sequencer logics in a complex Beckhoff PLC system for robots, test chambers, associated sensors, and status communication with conveyor line
- Responsible for continuous optimization and maintenance of deployed station software, including HMI and failure recovery procedures

Dexai Robotics **Somerville, MA**
Robotics Engineering Intern ***Dec 2020 – Feb 2021***
- Refactored C++ codebase to improve data logging coverage during robot executions, wrote Python scripts to parse, analyze, and visualize logged load cell sensor data
- Developed an API that allows Python calls to C++ functions in the codebase, implemented unit and system tests using GoogleTest framework
- Established environment for reinforcement learning training using OpenAI Gym

Waymo (formerly Google's Self-Driving Car Project) **Mountain View, CA**
Systems Engineering Intern, Fault Protection ***May 2020 - Aug 2020***
- Developed a software tool in Python and UML, incorporating Cameo Systems Modeler and open-source packages, to streamline the process of system representation and fault tree analysis
- Quantitatively analyzed root causes of faults in an autonomous system and their mappings to system-level outcomes and metrics, predicted system-wide failure rates using Boolean logic and probabilistic models

Daimler Trucks North America **Portland, OR**
Product Validation Engineering Intern, Vehicle Dynamics ***Jun 2019 – Aug 2019***
- Designed and iteratively prototyped a distributed IMU sensor system to measure articulation angle of instrumentation tractor-trailer trucks in Arduino
- Tested and evaluated performance of the sensor system in MATLAB, optimized its accuracy via sensor fusion with GPS using Kalman Filter, designed interface PCB layout to read and write CAN messages
- Validated ADAS camera systems by processing recorded videos using computer vision in Python (OpenCV)

MIT Space Systems Laboratory & Lincoln Laboratory: WaferSat **Cambridge, MA**
Research Assistant, Thermal Engineering Team ***Jan 2018 – Aug 2018***
- Developed and optimized PID control algorithm in Python and C++ for a WaferSat prototype to maintain steady-state temperature with 40% less power output
- Characterized thermal behaviors of the nanosatellite prototype in space-like environment in Thermal Desktop
- Conducted tests in thermal vacuum chamber, analyzed temperature signals using MATLAB and correlated with analytical Thermal Desktop model

SKILLS

Programming: Python, C++, MATLAB, HTML, CSS, Structured Text
Software: Linux, Git, Docker, ROS, Arduino, Raspberry Pi, Solidworks, AutoCAD, Thermal Desktop
Hardware: Soldering, bandsaw, drill press, CNC mill & lathe, hand & power tools, 3D printing, PCB layout
Languages: Fluent in English, Mandarin Chinese, and Cantonese