

THEO PHILLIBER

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CAREER HIGHLIGHTS

Multidisciplinary engineer with 2+ years of experience prototyping innovative electrical systems, creating optimization algorithms, and designing tests. Skilled in system integration, experimentation, data analysis, and simulation tools to drive impactful results in R&D and manufacturing environments.

PROFESSIONAL EXPERIENCE

Kawasaki Robotics, Inc

Robotics R&D Engineer

Santa Clara, CA

Nov. 2022 - Present

- Developing and testing a novel particle abatement system for semiconductor fabs. System utilizes a capacitive wafer charged at a high voltage to clean processing stations, improving yield and reducing tool downtime.
- Developed a Python program to automatically tune robot motions. Designed data processing and optimization algorithm, overall code structure, and integrated with robot controller.
- Enhanced system for detecting wafer position eccentricity using throughbeam sensors. Implemented Nelder-Mead direct search optimization to enable detection of notch and flat features. Also added capability to correct wafers of different sizes and transparencies.
- Designing electrostatic end effector prototype to handle and transport silicon wafers electrostatic force. Reduces the amount of contamination on wafers from traditional friction pads, and can be used in vacuum and cleanroom environments. Developed tests to measure performance, modified PCBs, and created theoretical models to improve design.
- Leading design of new accelerometer devices for measuring robot performance. Coordinating teams in San Jose and India to ensure project is on schedule. Designed long-term reliability test to validate device performance.

GEOKON, Inc.

Mechanical Engineering Intern

Lebanon, NH

June 2021 - Sep 2021

- Developed a novel MEMS IMU calibration procedure for in-place inclinometers. Greatly reduced overall error by introducing temperature compensation feature and calibration process.
- Conducted comparative research on calibration methods, optimizing for precision, cost, and time.

EDUCATION

California Polytechnic State University

BS Mechanical Engineering

San Luis Obispo, CA

Sep 2018 - June 2022

PROJECTS

MTB DAQ - Senior Project

Developed a data acquisition (DAQ) system for mountain bikes to collect acceleration and speed data, enabling riders to optimize suspension tuning. Designed and built a custom PCB to interface with sensors for data collection. Implemented and tested sensors for real-time data capture. Developed an algorithm to analyze collected data, providing actionable insights for suspension adjustments.

Custom Guitar Pedal

Design custom guitar pedals for modifying guitar sound. Utilize both analog and digital circuitry to change sound as desired. Produce custom PCBs and enclosures, assemble THT and SMD components, and write C++ firmware.