THITI KHOMIN

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(530)-407-2728

EDUCATION

University of California, Berkeley

B.S. in Mechanical Engineering
B.S. in Electrical Engineering and Computer Science
GPA: 3.85
May 2021 | Berkeley, CA

LINKS

Website: thitikhomin.github.io
Portfolio: tinyurl.com/thitikhomin
LinkedIn: linkedin.com/in/thiti-khomin
Github: github.com/thitikhomin

TECHNICAL SKILLS

Computer-Aided Design
SolidWorks | AutoCAD
Manufacturing
Lathe | Mill | Laser Cut | CNC
Programming
MATLAB | Python | Java | HTML | C++
Software
Simulink | Finite Element Analysis | Robot Operating Systems (ROS) | Arduino
Languages
Thai (Fluent) | English (Fluent)

COURSEWORK

-Mechatronics Design
-Dynamic Systems and Feedback
-Feedback Control Systems
-Engineering Mechanics
-Manufacturing and Tolerancing
-Thermodynamics
-Solid Mechanics
-Vehicle Dynamics and Control
-Three-Dimensional Modeling
-Programming for Engineers
-Internet of Things
-Designing Information Devices
-Data Structures

ENGINEERING EXPERIENCE

SCG Chemicals Internship - Robotics Division
May 2019 - August 2019

Mechatronics Engineer

Design and implement features to optimize the Carburization-Inspection Robot (CiBot), a robot that measures carbon levels of coils in petrochemical plants

- Led a team of engineering interns to mitigate random steering bias of the CiBot during its operation
- Designed mechanical actuating systems (SolidWorks) and implemented a PID controller through IMU feedback for self-stabilizing control (MATLAB and Arduino)
- Developed six design sprints, utilizing the agile methodology, to successfully upgrade the working product, reducing operating manpower by 40%

Berkeley Formula Racing
January 2018 - Present

Brakes and Driver Interface Engineer

Design and manufacture a formula-style race car over the course of a year

- Designed heel rests and pedals with minimal weight while maintaining function and performance with stress analysis (SolidWorks and FEA)
- Automated testing data to gather various rotor temperatures and hydraulic pressure during different braking events
- Simulated braking performances at different velocities utilizing knowledge of vehicle dynamics and heat transfer (MATLAB)

PROJECTS AND RESEARCH

Autonomous Skateboard
January 2019 - Present

Model Predictive Control Lab at UC Berkeley

Design and control an autonomous skateboard

- Designed, prototyped, and manufactured a mechatronic system to be mounted on the skateboard for controllability and movement (SolidWorks)
- Program a PID controller to stabilize and control skateboard movement with Robot Operating Systems (ROS) through Python

Automated Card Shuffler
January 2019 - May 2019

Mechatronics

Design a device with integrated mechanical and electrical systems

- Prototyped, and manufactured a machine with the ability to split, shuffle, and distribute cards depending on user input (SolidWorks)
- Programmed microcontroller to control linear actuators, DC motors, and movement sensors (Arduino)

Wind Turbine Project
August 2018 - December 2018

Three-Dimensional Modeling for Design

Prototype a miniaturized model of a wind turbine with efficient power generation

- Integrated solid mechanics and aerodynamics to design a wind turbine blade and tower structure (SolidWorks)
- 3D Printed and tested turbine on its power output and ability to withstand load