

EDUCATION

University of California, Berkeley

B.S. in Mechanical Engineering Minor in Electrical Engineering and Computer Science

GPA: 3.82

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

Programming

MATLAB | Python | Swift |

HTML

Software

Simulink | Finite Element

Analysis | Robot Operating

Systems (ROS) | Arduino

Languages

Thai (Fluent) | English (Fluent)

COURSEWORK

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

ENGINEERING EXPERIENCE

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).
- Constructed test plans to optimize brake pedal ratios for performance.
- Manufactured and assembled brakes and driver interface components.

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.
- Program a PID controller to stabilize and control skateboard movement with Robot Operating Systems (ROS) through Python

Shuffling Machine

January 2019 - Present

Mechatronics

Design a device with integrated mechanical and electrical systems

- 3D model, prototype, and manufacture a machine with the ability to split, shuffle, and distribute cards depending on user input.
- Programmed microcontroller to control linear actuators, DC motors, and movement sensors using Arduino

Microcontroller

January 2019 - Present

Internet of Things

Program microprocessors to develop applications in smart devices

- Built smart solar-powered system for data gathering and publishing
- Programmed microcontroller to send data via MQTT to host for processing
- Implemented low pass filters to modify PWM outputs in order to synthesize sound and remove undesired spectral components.

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 using SolidWorks
- 3D Printed and tested turbine on its power output and ability to withstand load.

ADDITIONAL EXPERIENCE

Kasemyont Supply Co., LTD

June 2018 - August 2018

Mechanic and Technician

- Analyzed and diagnosed problems associated with different system malfunctions.
- Participated in professional training to improve upon current knowledge of rapidly advancing automotive technologies.