

EDUCATION

*University of California,
Berkeley*

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

GPA: 3.88

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++ | C

Software

Simulink | Finite Element

Analysis | Robot Operating
Systems (ROS) | Arduino

COURSEWORK

-Mechatronics Design
-Signals and Systems
-Designing Information Devices
-Dynamic Systems and Feedback
-Feedback Control Systems
-Engineering Mechanics
-Manufacturing and Tolerancing
-Thermodynamics
-Solid Mechanics
-Vehicle Dynamics and Control
-Internet of Things
-Data Structures
-Machine 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

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

RESEARCH

Underactuated Robot Gripper August 2019 - Present
Undergrad Researcher at Mechanical System Controls Lab, UC Berkeley

Design an three-finger underactuated grasping system

- Designed and prototyped a tendon-driven gripper able to automatically adjust to objects of complex geometrical shapes.

Autonomous Skateboard January 2019 - August 2019
Undergrad Researcher at Model Predictive Control Lab, UC Berkeley

Build 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

PROJECTS

Gitlet (Data Structures) October 2019 - December 2019
Design a version-control system that mimics features of Git. (Java)

Automated Card Shuffler (Mechatronics) January 2019 - May 2019
Design a card shuffler with integrated mechanical and electrical systems.

Wind Turbine (Three-Dimensional Modeling) August 2018 - December 2018
Prototype a miniaturized model of a wind turbine with efficient power generation