

# Caden Kraft

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## INTERNSHIPS

### KONBINI TECHNOLOGIES

Singapore, SG

*Electro-Mechanical Engineer*

*Aug 2020 – Apr 2021*

- Developed an E-payment device capable of converting traditional coin-based washing machines
- Synthesized knowledge of mechanical design and electrical engineering to build a cost-effective device that still maintained toolless integration with older machines. Used Wi-Fi capable microcontrollers on the device to create a network of smart laundry machines at each location allowing customers to pay for their cycles with Singtel Dash, NETS Flashpay, or credit card
- Evaluated the E-payment device rigorously before it was manufactured and successfully deployed to over 200 machines in three different countries

### MOTIONAL

Singapore, SG

*Mechanical Design Engineer*

*Jan 2020 – May 2020*

- Developed an autonomous testing vehicle capable of simulating pedestrian movement used for training autonomous vehicles
- Designed testing vehicle using SolidWorks and Ansys to perform finite element analysis on the custom suspension system and gearbox. The vehicle was evaluated to withstand 1.5 tons
- Produced professional renders and stress analysis charts that were presented to senior engineers and peers to iterate on the final design architecture

## EDUCATION

### IOWA STATE UNIVERSITY

Ames, IA

*Mechanical Engineering Freshman*

*Aug 2021 – May 2025*

Relevant Courses:

- Mechanical Analysis
- Calculus 1

Clubs and Activities:

- PRISUM Solar Car Team
- MAVRIC M2I Mars Rover Team

### SINGAPORE AMERICAN SCHOOL

Singapore, SG

*International High School*

*Aug 2017 – May 2021*

## PROJECTS AND AWARDS

### NASA INTERNATIONAL SPACE STATION EXPERIMENT

Singapore, SG

*Mechanical and Electrical Design Lead*

*Jul 2020 – Aug 2021*

- Lead a team of five people to develop a biological experiment capsule examining the development of brine shrimp in a micro gravity environment on the International Space Station
- Designed schematic and PCB in Altium Designer used for monitoring the experiment. Also completed the design of the final resin printed launch capsule

### INTERNATIONAL SPACE CHALLENGE

Singapore, SG

*Mechanical Design and Technical Imagery*

*Jul 2020 – Jan 2021*

- Received the AWS innovation award and was a top 10 finalist out of 141 projects in the International Space Challenge for developing a lunar excavation rover
- Created design of the rover using SolidWorks and validated the designs performance metrics using Ansys to simulate lunar conditions
- Collaborated with team members in writing a technical paper summarizing the research, design specifications, and renderings

## RELEVANT SKILLS

- |                     |                  |                          |
|---------------------|------------------|--------------------------|
| • SolidWorks        | • Creo           | • CATIA                  |
| • Ansys Mechanical  | • MATLAB         | • 3D Printing (FDM, SLA) |
| • Autodesk Inventor | • Luxion Keyshot | • Altium Designer        |