# Michael Juan

## EDUCATION

**Carnegie Mellon University**— *MA Design*
August 2024-Current
June 2023- December 2023
**UC Santa Cruz**— *Computer Science Engineering*
*Bachelors in Technology Information Management*
2020

## EXPERIENCE

**TMJC Precision** — *Engineering Services*
MAY 2021- Current

**Customer Projects**
- Created an engineering service startup with 12 completed customer projects.
- Prototyped thermal measurement equipment for satellites.
- Machined emissions testing equipment.
- Machined prototypes for bicycle components.
- Designed and CNC-machined mechanical watch parts.

**My Own Products**
- Created and launched a successful hardware Kickstarter with 12000 dollars in sales and 115 units sold.

**Roobster AG**— *Design Engineer for Soflow People Mover*
May 2022 - May 2023
- Designed and implemented self driving functionality for the Soflow People Mover. Clients include BMW and Schindler.
- Designed automatic steering mechanism, braking system and application of sensors.
- Wrote embedded software and was involved in integrating electrical systems.
- Worked collaboratively on a multi-national team. Trained new hire on computer aided design and computer aided machining.

**Walnut Valley Unified School District** — *Robotics Coach*
OCTOBER 2021- April 2022
- Taught students programming, usage of CNC, manual mill/lathe, hand tools, and power tools.
- Designed curriculum for the program.

**Gridware** — Design Engineer for Gridware Gridscope
JAN 2021 - MARCH 2021
- Designed, prototyped, and manufactured sensor enclosures.
- Provided in-depth assembly instructions and cost analysis.
- Provided prototyping work that led to a 5.3 million dollar seed funding from Y Combinator.
- Work named by Time magazine as 200 best inventions of 2022.

## PROJECTS

**GPT Language model from scratch** — *Ongoing*
- Target performance equivalent to chatgpt 2 124 million parameter model.
- Wrote a large language model from scratch

**Sub micron stepper**— *Ongoing*
- Built a sub-micron repeatable linear motor kinematic frame.

**LinuxCNC conversion of manual mill**
- Converted a milling machine from manual to CNC
- Machined parts for the conversion on a knee mill.
- Programmed in C and Verilog

**Formula SLUG SAE** — *aerodynamics team*
- Built a carbon fiber curing oven and molds for FSAE race car body panels
- Prepared designs with input from finite element analysis

## SKILLS

Programming (C, Python, Java)
3&4 axis CNC machining
Manual machining
CAD/CAM (Fusion 360, Solidworks)
Leadership experience.
Project management
Finite Element Analysis
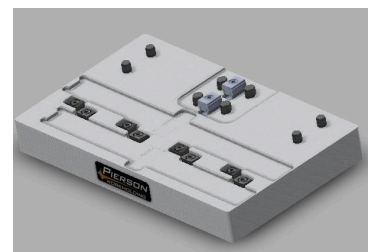
## LANGUAGES

English (Native)
Mandarin (Native)
Taiwanese (Native)



Soflow People Mover



Gridware Gridscope



Production fixture for Kickstarter project.

## ACTIVITIES / VOLUNTEERING

**MAG Lab Makerspace** – 3D Printing/CNC Lead, Quartermaster

2017 - Current

- Instructor for CNC machining
- Maintained and opened up the makerspace to the general public

**UC Santa Cruz Backpacking Club**— *President*

2019 - 2020

- Planned and led week-long trips in the Sierras
- Taught wilderness backpacking courses