

# Timothy Lin

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*LinkedIn*

<https://www.linkedin.com/in/timothylin13>

*Portfolio*

<https://tlin13.github.io/>

## SKILLS

### Design:

- Proficient in Solidworks
- Comfortable in ProE
- AutoCAD

### Manufacturing:

- Basic experience with CNC mill and lathe
- 3D printing

**FEA:** Solidworks Simulation, Nastran

**Technology:** Raspberry Pi, Arduino, Linux, ROS

**Programming:** Python, Matlab, HTML

**Other:** Product Development, Git, Microsoft Office

**Language:** Conversational Mandarin

## EDUCATION

*Master of Science in Mechanical Engineering*  
University of Central Florida  
Orlando, FL 2017 - 2019

*Bachelor of Science in Mechanical Engineering*  
University of California Irvine  
Irvine, CA 2009 - 2014

## PROFESSIONAL EXPERIENCE

### MECHANICAL ENGINEER INTERNSHIP

*Crow Industries, Los Angeles, CA / May 2018 - August 2018*

- Designed and rendered spacecraft landers and zero-G cubesat in SolidWorks used in proposals
- Assembly designed using widely available modular 80/20 T slot aluminum framing system for ease of manufacturing
- Developed engineering drawings and bill of materials for zero-G cubesat
- Proposed design allowed zero-G cubesat to be successfully manufactured within timeline to test in zero-G flight
- Assisted team members preparing necessary documentations for proposals for NASA and ESA

### MECHANICAL ENGINEER

*PureGear, Irwindale, CA / January 2015 - June 2017*

- Utilized Pro Engineer to modify components and tooling fixtures during design phases
- Created 3D printed prototype mock ups of mobile and audio accessories for product development
- Communicated with vendor to solve tooling issues while meeting timeline goals
- Helped launch many consumer electronic products before deadline
- Assisted team members in producing documentation to present to clients in Microsoft Office

## PROJECTS

### Programmable LED Lamp

*Raspberry Pi, 3D printing, Python, design, LED, power, Fadedcandy*

- Using Raspberry Pi and Fadedcandy board to program a series of sketches to create interactive visuals using 120 LEDs, similar to a lava lamp
- Sectioned off LED strips into 8 strips of 15 LEDs, soldered 3 sets of wires (power, data, ground), created JST connectors on both sides of each strip
- Designed base in Solidworks, 3D printed, held the LEDs and components
- Programmed main sketch in Python, integrating two momentary push buttons, one for power and another to cycle through different light modes
- Post processed 3D printed parts, sanding and painting to give a consumer appeal

### 2 AXIS BRUSHLESS GIMBAL

*Brushless DC motors, 3D printing, design, PID tuning*

- Achieved camera stabilization when being rolled or tilted, even smoothing jittery motion by user
- Utilizing 2 brushless DC motors, gimbal controller, and LiPo battery to stabilize camera movements for steady shot
- Brushless DC motors allow camera to rotate about the roll and pitch axis
- Motors/camera mounting brackets and handle designed in Solidworks and 3D printed
- Tuned the controller using PID to optimize camera stabilization