Lawrence Chang

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Project Portfolio: lchangbuilds.com

Education

Northwestern University 2023 (anticipated)

B.S. ME, Minor CS, GPA: 3.98/4.00, High Honors - 2/3 quarters, Honors - 3/3 quarters

- Coursework: User Design, Statics, LinAlg, DiffEq, Multi Var Calc, Dynamics, Circuits, Fluid Mech

Experience

Avid CNC North Bend, WA

Product Design Intern June 2021 - August 2021

- Designed and prototype a modular and configurable magnetic laser mounting system for CNC machines
- Responsible for testing and documentation of laser system in preparation for product launch
- Worked with partner companies to test and debug laser control software

Northwestern Formula Racing Evanston, IL

Suspension and Electric Vehicle Team Sept 2020 - Present

- Designed an anti-roll bar system (ARB) optimized with 15% weight savings while improving manufacturability
- Developing a battery enclosure for an EV formula one car that provides adequate cooling and protection
- Developing wheel hubs to withstand dynamic loads from driving

Segal Design Institute Evanston, Il

Prototype Shop Trainer March 2021 - Present

- Developed curriculum for and taught the operation of machine tools and hand tools on a weekly basis
- Assisted design teams with prototype planning and fabrication
- Responsible for maintaining safety protocols and performing machine and shop maintenance

Segal Design Institute Evanston, Il

DTC Team Project Manager March 2021 - June 2021

- Led a 4-student design team to create a modular LED paneling system for a consulting firm
- Regularly conducted user and client interviews for mock up testing and research
- Created extensive reports and a final presentation to document our research, prototypes, and design justification

Paly Robotics Palo Alto, CA

Team Captain Aug 2016 - June 2020

- 2020 Robot Documentation
- Project managed technical operations of the robot and led the team to its first competition win in 14 years
- Coordinated logistics with mentors, parent volunteers, and school administration for a 70-member team
- Led and organized a robotics summer camp for over 40 students across 2 weeks
- Created teaching curriculum which increased the number of proficient machinists on the team 5-fold

Projects

See full list of projects at lchangbuilds.com

Semi-Autonomous Longboard 2021 - Present

- Developing an electric longboard with a semi-auto person tracking mode
- Designed a compact robotic drive module to withstand the dynamic loads during riding

Electric Microbike 2019

- Custom, scratch built welded tube frame with full suspension
- 1800w BLDC motor, built-in tail and headlights, and 3D printed electronics enclosure

Skills

Fabrication: CNC, Mill, Lathe, Plasma, Laser, 3D Printer, Welding, Prototype Electronics, Sheet Metal Fabrication

Design Engineering: Rapid Prototyping, SolidWorks, NX CAM, DFM, DFA, Fusion360, ADAMS, GD&T, Design Drawings

Software: Matlab, Python, Excel, C, C++, Arduino, LaTeX, HTML

Other: Technical Report Writing/Documentation, Fluent in Mandarin, BoM, Project Management, Leadership