Lawrence Chang

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Project Portfolio: lchangbuilds.com

Education

Northwestern University 2023 (anticipated)
B.S. ME, Minor CS, GPA: 3.99/4.00, High Honors - 2/3 quarters, Honors - 3/3 quarters
- Coursework: User Design, Statics, LinAlg, DiffEq, Dynamics, Circuits, Fluid Mech

Experience

Avid CNC North Bend, WA
Product Design Intern June 2021 - Present
- Designed a highly configurable, magnetically attached laser system for CNC machines
- Responsible for testing and documentation of laser in preparation for product launch
- Worked with partner companies to test and debug control software

Segal Design Institute Evanston, Il
Prototype Shop Trainer March 2021 - Present
- Responsible for developing curriculum and teaching manual mill, lathe, and general shop tools
- Responsible for maintaining safety protocols and performing machine and shop maintenance

Northwestern Formula Racing Evanston, IL
Suspension and Electric Vehicle Team Sept 2020 - Present
- Designed and manufactured an adjustable stiffness anti-roll bar (ARB) system
- Optimized 15% weight savings while maintaining performance and improving manufacturability of the ARB
- Responsible for design of wheel hubs to withstand dynamic loads of road conditions
- Developing novel battery pack enclosure for electric formula one car

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 long board 2021 - Present
- Developing an electric longboard with semi-auto person tracking mode
- Designed a compact robotic drive module to withstand the dynamic loads during riding

3D Printed Ebike System 2018
- Used rapid prototyping to design an inexpensive 3D printed electric bike conversion kit.

Electric Microbike 2019
- Welded tube frame with full suspension
- 1800w BLDC motor, built-in tail and headlights, and 3D printed electronics enclosure

Mid-drive Ebike 2018
- Custom lithium ion battery packs with a replaceable cell system
- Unique in-frame motor mount made from custom machined plates and hubs

Honors

FIRST Dean's List Finalist Leadership and community outreach on the robotics team 2019

Makerfaire Editor's Choice Most engaging and creative displays at Bay Area Maker Faire 2019

Skills

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

Design Engineering: Rapid Prototyping, SolidWorks, NX CAM, DFM, DFA, Fusion CAD/CAM, ADAMS, Vectric

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