

Eddy Yang

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Education

University of California, Berkeley, B.S. Mechanical Engineering

December 2019

Skills

Solidworks, MATLAB and Simulink, Python, C++, AutoCAD, Fusion 360, Certified LabView Associate Developer, ANSYS, HTML, CSS, JavaScript, JQuery, Node.js, React, MySQL, Mongo DB.

Work Experience

KiwiBot, Berkeley, CA - Robot Technician

August 2019- December 2019

- Disassembled and reassembled robots and peripheral equipment to make repairs such as replacement of defective circuit boards, sensors, controllers, encoders, and servomotors.
- Performed preventive and corrective maintenance on robotic systems and components.

iDental, San Francisco, CA - Mechanical Engineering Researcher

September 2019- December 2019

- Manufactured teeth implants by 3D scanning teeth, developing CAD models of teeth implants, and using subtractive manufacturing techniques to produce titanium teeth replicas with millimeter tolerance.
- Determined root causes of failure using statistical methods and recommend changes in designs, tolerances, or processing methods.

Research

UC Berkeley FLOW Lab, Berkeley CA - Research Assistant

June 2019 - August 2019

- Designed the state machine architecture of a motion controller for a seven axis tomography system on LabView, integrated an intuitive UI for controlling each axis, and established serial communication via ethernet to the motion controller. Keeping daily reports with a research journal.

Extracurricular Activities

Pioneers In Engineering, Berkeley, CA - Member of mechanical team

August 2017 - May 2018

- Modeled the stress-strain load of various casting materials using ANSYS to determine appropriate material for molding and casting gears.
- Conducted in-house manufacturing and testing of gears made from various materials. Results created a 93% savings for all gears by manufacturing our own polyurethane gear in our robotics kits.

Projects

Quizzly

- A full-stack MERN web application used to gamify studying with friends. I developed the backend end game logic, created APIs, and used socket.io to develop a real-time game server. Incorporated Firebase for user Authentication, and developed a scraper to extract data from pre-existing sites to quickly allow users to populate their database.

Autonomous driving Micromouse

November 2019

- Designed and built the electrical system of a micromouse vehicle. Programmed PID controllers on an arduino nano to allow the vehicle to adjust for deviations when cruising straight or turning. Used a PID controller to allow the vehicle to follow a wall. Incorporated a Flood-fill algorithm to find the best path within a maze and have the micromouse follow that trajectory.

Controller for UAV

October 2019

- Incorporated a cascaded feedback controller to allow a crazyflie quadcopter to hover at steady-state. Developed vertical, horizontal, and altitude estimators using predictor-corrector models to reduce noise and bias from measurements. Developed a mathematical model of the mixer matrix to determine PWM outputs of each motor for given commands.

Real-time, multitasking, remote controlled Hovercraft

May 2019

- Designed a CAD model of hovercraft using three directional quadcopter fans, and one lift fan on Solidworks. Established the state machine architecture and an intuitive GUI that allows for mouse actions and directional buttons on the keyboard to control hovercraft. in real-time.