BRIAN (ZIYI) WANG

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EDUCATION

University of California, Berkeley *Graduated*: May 2024
- BS, Mechanical Engineering GPA: 3.68/4.00
University of California, Berkeley *Expected Graduation Date:* May 2025
- MS, Mechanical Engineering GPA: 4.00/4.00
Relevant Coursework - Heat Transfer, Mechanical Rigid Dynamics, Design and Manufacturing (GD&T), Modeling and Simulation in advanced manufacturing, Flight mechanics, IOT, Property of Material, Dynamic Systems and Feedback Control.

TECHNICAL SKILLS

Software Tools: MATLAB, Fusion 360, SolidWorks, CATIA, FDM/DFA, FDM, Python, Circuits design, CNC, PCB
OTHER: Customer service, Problem-solving, Organized, Teamwork, Adaptable, Efficient, Self-motivated, Innovative
LANGUAGES: Fluent in English, Mandarin, and Cantonese

PROFESSIONAL EXPERIENCE

Tesla — Cells Manufacturing Engineering Fremont, CA — May 2023 - Dec 2023
- Utilized SolidWorks and FDM to design and implement a sandblaster coupon coating test bench for cathode mixer, developing quick and reliable methods for evaluating optimal coating solutions for future manufacturing integration
- Designed and fabricated custom inspection and maintenance tools for the maintenance team using SLA 3D printing and RepliSet, reducing inspection time by 2 hours per batch while enhancing data collection efficiency and accuracy
- Developed Standard Operating Procedures (SOPs) and implemented them across all sites, for streamlined maintenance
- Developed cathode mixer blade with air purge feature, validated performance in a 1/10 scale mixer, and successfully scaled it up for large-scale production in a 1500L mixer, enhancing efficiency and mixing consistency.
- Designed and implemented sensor mounts for various manufacturing equipment using SolidWorks, leveraging FEA and material selection to optimize mechanical properties, reduce costs, and ensure performance under demanding conditions
- Conducted fit-checks and tolerance adjustments on upgraded parts. Adjusted clearances and tolerances based on engineering drawings and actual measurements to ensure seamless assembly in high-speed production lines
- Developed Matlab scripts for automatic data calibration and synchronized experimental data from two different acquisition systems Instron and strain gauge, enhancing comparability and visualization efficiency
- Collaborated with vendors and machine shops to optimize production scaling, quality control, and cost efficiency.

Toyota — Automotive Technician Oakland, CA — Feb 2022 - July 2023
- Removed and installed parts in 100+ vehicles weekly while ensuring precise assembly, repair, and vehicle performance
- Diagnosed issues via test drives, identified root causes, and collaborated with advisors to recommend efficient solutions
- Performed brake fluid flush, air bleeding, and system diagnostics to provide customer with detailed reports and insights

Alameda Auto Body — Automotive Repair Technician Alameda, CA — Jun 2018 - Jun 2020
- Restored over 30 accident vehicles by operating digital OBD scanner, four-wheel alignment, wheel balance machine
- Inspected breaks, 4 wheels alignment, and tire balanced on 300+ vehicles to ensure ride comfort and safety
- Restructured over 180+ vehicles back to pre-accident conditions and increased over 200% customer satisfaction

EXTRACURRICULAR PROJECTS

UC Berkeley Solar Vehicle Team – Mechanical Team Associate Berkeley, CA — Aug 2021 - Present
- Designed and manufactured pedal box, caliper mounts, and hydraulic handbrakes, optimizing brake efficiency for race
- Improved control and safety through initiating a fluid brake over the original wire mechanical hand brake system
- Fabricated carbon fiber layups for structural components, enhancing durability and lightweight performance.
- Machined screws, nuts, safety wires to ensure component security and compliance with FSGP race safety inspections
- Applied four-bar linkage concepts to design a simple and effective mechanism for controlling the fairing door operation
- Applied GD&T principles to ensure precise fitment of machined components, collaborating with cross-functional teams on structural and dynamic requirements.

Carbon Fiber Linkage Design for Tire Machine Paddle Box Berkeley, CA — Jan 2023 - May 2023
- Designed a lever bar using carbon fiber composites, achieving 360N tension resistance without fracture
- Developed cost-effective 3D-printed molds (~$10 per unit) with a 10-hour production time, ensuring manufacturability.

Center of Gravity Simulation for a Regional Airliner Embraer E195-E2 Berkeley, CA — May 2024 - Dec 2024
- Developed a MATLAB-based simulation framework to assess aircraft stability and CG limits for flight safety.
- Optimized horizontal tail volume coefficient and wing geometry for enhanced aerodynamic performance.