

Jolie Lai

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EDUCATION

Purdue University – West Lafayette
Bachelor of Science in Mechanical Engineering

Aug 2024 – May 2028
[3.61/4.00]

WORK EXPERIENCE

Engineering Intern

May 2025 – Jul 2025

Multiscale Medical Robotics Center

Hong Kong SAR

- * Reviewed academic literature to determine wind tunnel dimensions, ensuring quality airflow
- * Designed 6 components in Fusion360 and analyzed airflow on ANSYS.
- * Improved jig design with 5+ iterations to fulfill print-in-place requirement

Aerodynamics Intern

Jul 2023 – Aug 2023

Hong Kong University of Science and Technology

Hong Kong SAR

- * Engineered 8 aerodynamic models and increased lab productivity by 30% through assisting other members.
- * Performed CFD using SolidWorks to ensure quality air flow on engineered models

EXTRACURRICULAR ACTIVITIES

Undergraduate Research Assistant

Aug 2025 – Present

Pan Lab - Microscale 3D Printing Tool Implementation

West Lafayette, IN

- * Utilized LabVIEW to create new features for microscale 3D printer
- * Constructed algorithms with Python for gcode parsing and STL file slicing

Wood Shop Peer Mentor

Feb 2025 – Present

Purdue Bechtel Innovation Design Center

West Lafayette, IN

- * Oversee and inspect CAM programs and CAD models to ensure efficiency and feasibility
- * Provided consulting services to 100+ Purdue students on project workflow, material and tool selection
- * Developing clear, updated Standard Operation Procedures to improve training and safety
- * Spearheading nightstand manufacturing workshop curriculum

Aerodynamics Team Member

Aug 2024 – Present

Purdue Electric Racing

West Lafayette, IN

- * Designing and iterating 2026 racecar vehicle undertray and analyzing flow on ANSYS Fluent
- * Created rear wing components with Siemens NX and assisted with manufacturing for previous 2025 vehicle
- * Devised mounting methodologies for rear wing, resulting in reduced manufacturing time and increased stability
- * Assisted with the manufacturing of 10+ molds and 20+ components in the 2024-2025 season

PROJECTS

Desk Organizer | Autodesk Fusion, AutoCAD

Sep 2025 – Present

- * Developed CAM program for slotting and engraving operations on ShopSabre gantry
- * Created CAD models and engineering drawings compliant with ASME Y14.5 standards.
- * Prepared precise DXF files for laser cutting acrylic and plywood materials.
- * Performed DFA analysis and generated BOMs, streamlining manufacturing and assembly processes.

TECHNICAL SKILLS

Languages: Python, MATLAB, JavaScript, HTML, CSS

CAD: Siemens NX (Unigraphics), SolidWorks, Autodesk Fusion (CAD, CAM, FEA), ANSYS Fluent, AutoCAD

Engineering: DFM/DFA, GD&T (ASME Y14.5), BOM Generation, LabVIEW

Manufacturing: CNC machinery operations, CAM programming, 3D printing, Power Hand Tools, Soldering

Microsoft Office Suite: Word, PowerPoint, Excel