

Jolie Lai

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EDUCATION

Purdue University – West Lafayette <i>Bachelor of Science in Mechanical Engineering</i>	Aug 2024 – May 2028 [3.61/4.00]
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WORK EXPERIENCE

Engineering Intern <i>Multiscale Medical Robotics Center</i> * 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	May 2025 – Jul 2025 Hong Kong SAR
Aerodynamics Intern <i>Hong Kong University of Science and Technology</i> * 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	Jul 2023 – Aug 2023 Hong Kong SAR

EXTRACURRICULAR ACTIVITIES

Undergraduate Research Assistant <i>Pan Lab - Microscale 3D Printing Tool Implementation</i> * Utilized LabVIEW to create new features for microscale 3D printer * Constructed algorithms with Python for gcode parsing and STL file slicing	Aug 2025 – Present West Lafayette, IN
Wood Shop Peer Mentor <i>Purdue Bechtel Innovation Design Center</i> * 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	Feb 2025 – Present West Lafayette, IN
Aerodynamics Team Member <i>Purdue Electric Racing</i> * 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	Aug 2024 – Present West Lafayette, IN

PROJECTS

Desk Organizer Autodesk Fusion, AutoCAD * 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.	Sep 2025 – Present
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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