

PAUL WANG, MECHANICAL ENGINEERING STUDENT

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WORK EXPERIENCE

Suspension Lead, *Edinburgh University Formula Student (EUPS)* *DEC 2024 – Present*

- Solely responsible for modelling and designing suspension assembly in Simscape & SolidWorks.
- Designed a suspension geometry optimiser from scratch using Simscape multibodies. Created full-car kinematic model, determined optimal suspension geometry and roll axis. Validated quantitative performance benefits of anti-ackermann and anti-dive and used in-house tyre magic formula model.
- FEA & topology optimisation for all suspension and bellcrank components in SolidWorks.
- Represented suspension at Formula Student UK's design presentation, contributed to team's 6th place, topology optimised bellcranks & motion ratio contributed 15 points and mentioned as good design.

Vehicle Dynamics Engineer, *Edinburgh University Formula Student* *SEP 2024 – Present*

- Manufacturing experience, SolidWorks, additive manufacturing, laser cutting, and hydraulic tools.
- Replaced and repaired brake lines & calipers, suspension components, shocks, and resealed tyres.
- Created a quasi-steady-state point-mass laptime simulator from scratch in MATLAB. Determined the efficacy of large-scale concepts, such as car weight, battery size, & aero targets.
- Advised Aerodynamics team on CFD & aero designs regarding Vehicle Dynamics and overall concept.
- Provided justification for the team's aero package design using laptime and cornering speed.

Motorboat, Sailboat, and Aircraft Maintenance Technician *JUL 2023 – Present*

- Motorboat & sailboat maintenance at MSC, performed hydraulic steering, drivetrain, and electrical maintenance on motorboats, and fibreglass & carbon fibre composites work for our fleet of sailboats.
- Aircraft repairs, teardowns, and component analysis at TCFT, performed repairs on hydraulics, tyres, brakes, avionics, and fuselage. Performed teardowns on Cessna airframes and engines.

Lead Sailing Instructor, *Minneapolis Sailing Center (MSC)* *MAY 2022 – Present*

- Head coach for the Optimist Racing Team, managed logistics and coached a team of 8-12 students. Real-world leadership and communication experience, solely responsible for designing all lesson plans and tailoring my coaching for each student, accounting for unique sailing and learning styles.
- Head instructor for the Adult Advanced Laser Racing class, taught complex physics and aeronautical concepts, such as wing-tip vortices, airflow separation, and centre of gravity & roll center dynamics.
- 1500+ work hours, 75+ class sessions taught, named best instructor of 2024 and 2025.

EDUCATION

BEng Honours Mechanical Engineering, *University of Edinburgh* *SEP 2024 – Present*

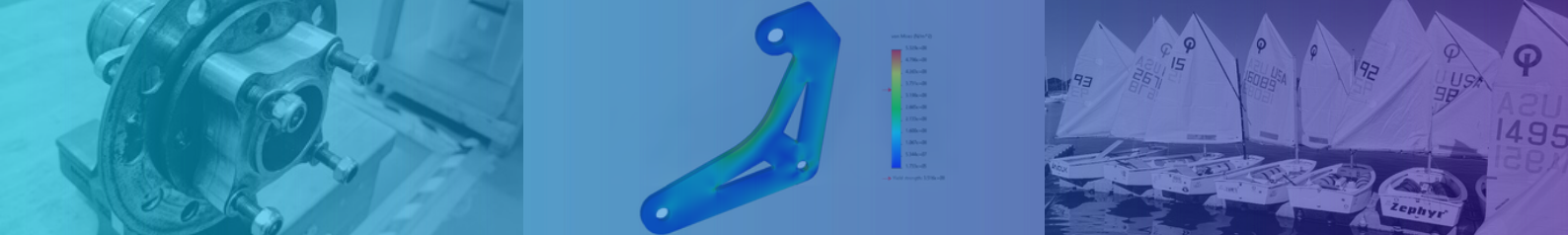
- Grade: First Class (A2). Completed 6 classes with 120 UK credits, volunteered for EUPS in Open Days

University Classes Taken for High School, *University of Minnesota* *SEP 2021 – MAY 2024*

- 3.66 Cumulative GPA, 4.0 Technical GPA, 3 Dean's List Honours, LPE: Portuguese Language Proficiency
- Completed 17 university classes with 70 US credits. Normal university classes taken full time as secondary school credit. Followed the UMN Mechanical Engineering & Computer Science degree tracks, including 3rd year classes, multi-degree matrix differential equations and algorithm coding.

Pilot Training, *Twin Cities Flight Training (TCFT)* *MAY 2022 – JUN 2024*

- FAA Licensed Private Pilot. 200+ Landings, 100+ flight hours. Actual instrument experience, ILS landings.



TECHNICAL PROJECTS

Software and Programming Languages

- **MATLAB**, Differential equations, matrices, Pagerank. Mathematical calculations for Formula Student.
- **Simulink & Simscape**, Used Simscape multibodies and Simulink for suspension geometry optimiser.
- **Solidworks**, Design, FEA, & Topology Optimisation for Formula Student.
- **Java**, Created Chess, Minesweeper, Tetris, and Hashing Tables from scratch.
- **Python**, Created orbital motion and rocket simulations, and real-time data processors from scratch.
- **R, HTML, & CSS**, Used with R Markdown to create reports and presentations, process & visualise data.
- **UNREAL ENGINE 5**, Created 3D renders of the Edinburgh University Formula Student car.
- **C#, C++, & C**, Used Unity Game Engine to create 3D and 2D video games.

Math, Physics, CompSci, Vehicle Dynamics, & Aerodynamics Tutor

Offered a tutoring service for students and classmates at the Universities of Edinburgh and Minnesota.

NON-TECHNICAL PROJECTS

Cinematography & Graphic Design

- Created several amateur films in Iceland, western America, and Antarctica. Shot using a Nikon D5600 with gimbal stabilisation, then edited and colour graded in Davinci Resolve 19.
- Created several action films documenting my competitive sailboat racing.
- Used my Unreal Engine 5 renders for official Edinburgh University Formula Student marketing posters.

Blind Sailing and Community Outreach Volunteer

- Volunteered at the Minneapolis Sailing Center as a skipper to give free sailboat rides to members of the public during our Free Sailing Sunday events and other community outreach events.
- Volunteered to coach blind or visually impaired sailors at the Minneapolis Sailing Center, through summer camps and outreach events. In partnership with Twin Cities Blind Sailing.

Self-Taught Pianist, Guitarist, & Drummer

- Piano: two years of experience to date, learned *Clair De Lune* & *Arabesque no. 1* by Debussy.
- Guitar: two months experience, learned *Ten Years Gone* & *Since I've Been Loving You* by Led Zeppelin.
- Drums: ten years of experience, played in elementary school and middle school bands.

OTHER ACTIVITIES

FAA Licensed Private Pilot

- 270+ Landings, 200+ flight hours. Actual instrument experience, ILS landings. 10 night hours, 10 blindfolded or visually impaired landings, 30,000+ miles flown.

Sailing State Champion

- two time consecutive Minnesota state champion in the ILCA 7 Laser Sailboat Class. 2022 & 2023
- five time Minneapolis Sailing Center racing league champion in the Melges C-Scow Class. 2022–2025

Grade 8 U.S. Soccer Federation Referee

- Center and assistant referee, ages 12-20. Refereed high school state championship. 2018–2024

Testing and Race Driver

- Testing and Race Driver for Car 128 - Edinburgh University Formula Student