

JAMIE KANG

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SKILLS

- Software and Tools:** Git, VESTA, CrystalMaker, Onshape, SolidWorks, FEA, SolveSpace, Abaqus, UniVert, PASCOS, Figma, VS-Code, MS Office, Google Workplace, Apps Script.
- Engineering Practices:** Finite element analysis, 3D printing, spot welding, use of mill, brake, drill press, and bandsaw in a machine shop environment.
- Programming Languages:** C, C#, C++, MATLAB, HTML, CSS, JavaScript, SQL, L^AT_EX, Python.

EXPERIENCE

- Mechanical Design Co-op Student** Waterloo, ON
Midnight Sun Solar Car Team *Jan. 2024–Apr. 2024 (Continued Involvement Post-Placement)*
- Spearheaded the entire development process of the steering wheel, starting from ergonomic design based on user feedback to prototyping and testing. Utilized SOLIDWORKS for CAD design and employed advanced machining techniques for final production.
 - Engineered and tested dual lanyard mounts using FEA simulations in SOLIDWORKS, followed by real-life stress testing, ensuring structural safety under forces up to 900N and meeting rigorous competition standards.
 - Independently designed and fabricated interior panels, optimizing the layout for operational components and enhancing driver safety and aesthetics, utilizing advanced sheet metal and surface modeling techniques.
 - Developed custom jigs to streamline manufacturing processes, achieving precise component alignment and assembly, significantly enhancing production efficiency.
 - Centralized sponsorship management into Google Sheets, automated communications with Apps Script, and successfully engaged over 100 potential sponsors through targeted cold calling, substantially improving funding acquisition and sponsor relations.
- Project Developer** Burlington, ON
SocialiiiASD Inc. *Aug. 2022*
- Advanced proficiency in Figma by designing UI for the mobile application *NANAWorks*.
 - Designed and implemented front-end pages using Bubble.
- Secretary and Librarian** London, ON
Veritas Education Canada *Sep. 2019–Aug. 2021*
- Created an organizational system on Excel to manage library books and homework assignment, which significantly reduced the number of lost books and unassigned homework.

PROJECTS

- Bumper Design & Motion Simulation** Waterloo, ON
Dynamics *Dec. 2023*
- Engineered a vehicle bumper using CAD for design and laser-cutting techniques for fabrication, successfully stopping a small-scale vehicle on an incline.
 - Performed motion simulations in MATLAB to validate the bumper's effectiveness, ensuring accurate prediction of vehicle dynamics.
- Y. A. T. S. (You Are The Stick) Wheelchair** Waterloo, ON
Introduction to Biomedical Design *Sep. 2021 – Dec. 2021*
- Innovated a backrest-controlled wheelchair by integrating user-centered design principles and engineering analysis, replacing traditional joystick controls with responsive upper body movement.
 - Applied Quality Function Deployment (QFD), developed detailed user personas, and employed morphological analysis to ensure the design met ergonomic and functional standards, enhancing accessibility for users.
- Product Pitch Competition — First Place** London, ON
Western University Entrepreneurship & Law Engineering Camp *Aug. 2019*
- Directed a team to design and prototype an innovative emergency response product for a natural disaster scenario, managing all aspects of the creative and presentation process.
 - Secured first place in a competitive pitch competition, praised for the prototype's practical application and clear, impactful presentation.

EDUCATION

- B.A.Sc., Biomedical Engineering** Waterloo, ON
University of Waterloo *Expected Apr. 2027*
- Relevant courses: