Kevin Chen

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EDUCATION

Northwestern University, Evanston IL ***September 2020-June 2024***

- Bachelor of Science: Mechanical Engineering, Minor in Environmental Policy and Psychology
- GPA: 3.81/4.00

SKILLS

- Programming (MATLAB, Python, CSS, HTML)
- Oscilloscopes and breadboarding (nScope)
- Mill and lathe (Conventional & CNC Machining)
- CAD & FEA (SOLIDWORKS, NX, Creo, Abaqus)
- Confocal and Electron microscopy (ImageJ)
- Wet laboratory equipment and manual tools

EXPERIENCE

Structural Dynamics Branch NASA Langley Research Center, Hampton VA ***June 2022-August 2022***

Intern

- Conducted flexural testing of Advanced Composite Solar Sail System (**ACS3**) composite booms, **cube-sat** assembly
- Designed **crushable hybrid composite-polymer structures** for experimental VTOL aircraft gantry drop test
- Diagnosed and repaired extrusion and stereolithography 3D printers (Prusa, FormLabs, Raise3D, Ultimaker, Zortrax)

Northwestern University Bazant Materials Science Laboratory, Evanston IL ***May 2021-June 2022***

Undergraduate Researcher

- Performed **fracture analysis** on composites, shale, and concrete to determine material properties for manufacturers
- Developed biaxial tension-compression model through SolidWorks and stress analysis with **Abaqus FEA**
- Gained **shop certification** in CNC machining specimens using mill, lathe, drop saw, diamond-edged band saw, etc.

Ann & Robert H. Lurie Children's Hospital, Chicago IL ***March 2021-Present***

Lurie Inventor

- Created the X-Strap, an infant restraint device for emergency medical transportation
- A product of Northwestern DTC, **sole team in 2021 to be selected** for continued evaluation
- Finalizing a transfer of rights to Lurie's Children's Hospital for potential patenting

NUSolar & Northwestern Formula Racing, Evanston IL ***September 2020-June 2022***

Chassis Team Member

- Assisted manufacturing of Solar Car 7 and contributed to the development of the Solar Car 8 floorboard using **SOLIDWORKS and Abaqus FEA** as an independent project with NUSolar leadership
- Specialized in **composite layups, water jet, and laser cutting** for current Formula vehicle

LEADERSHIP

VEX Robotics Team, 7701X, Zionsville IN ***August 2017-May 2020***

Lead Designer and Builder

- 2019 & 2020 **World Championship Divisional 1st place and finalists**, 2019 **1st place World Driver Skills Ranking**, VEX Robotics **2020 National Signature Event Tournament Champion**, 8x Regional Tournament Champions
- Constructed lift mechanisms (four-bar, double reverse four-bar, scissor lift), improved sensor suite (**ultrasonic, IMU, shaft-encoder**), 3D-printed custom gears and sprockets for drivetrain motion, and upgraded pneumatics systems
- Applied **PID controllers** as well as **odometry** for autonomous motion and tracking of robot

InfernoGuard USA, Evanston Il ***Feburary 2022-September 2022***

Environmental Data Lead

- Investigating markers indicating the presence of wildfires (particulates, humidity, modified combustion efficiency), generating a predictive algorithm to estimate distance and severity of fire from point of interest
- Coordinating with backend, hardware, and fundraising team (**awarded over $500,000**) across multiple competitions
- Organizing testing proposal to be presented to potential clients for future and ongoing controlled burn testing