

# Kevin Chen

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## EDUCATION

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Northwestern University, Evanston IL

*September 2020-June 2024*

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

## SKILLS

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

## EXPERIENCE

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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, band saw, etc.

Ann & Robert H. Lurie Children's Hospital, Chicago IL

*March 2021-Present*

*Lurie Inventor*

- Creating 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*

- Assisting manufacturing of Solar Car 7 and contributing to the development of Solar Car 8 through CAD (**SolidWorks, Abaqus FEA**) in an independent project with NUSolar leadership
- Specializing in **composite fabrication, water jet cutting, and laser cutting** for current Formula vehicle

## LEADERSHIP

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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

*Feb 2022-Present*

*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