

Kevin Chen

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EDUCATION

Northwestern University

September 2020-June 2024

- Bachelor of Science in Mechanical Engineering, Minor in Environmental Policy and Psychology
- GPA: 3.84/4.00

EXPERIENCE

Undergraduate researcher, Bazant Materials Science Laboratory

May 2021-Present

- Performing fracture analysis on composites, shale, and concrete to determine material properties for manufacturers
- Biaxial tension-compression model design through SolidWorks and stress analysis with Abaqus CAE
- **Shop certified** in machining specimens using mill, lathe, drop saw, band saw, etc.

Lurie inventor and collaborator, Lurie Children's Hospital of Chicago

March 2021-Present

- 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 development
- Currently finalizing a transfer of rights to Lurie's Children's Hospital for potential patenting

Chassis team member, NUSolar & Northwestern Formula Racing

September 2020-Present

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

Intern and mentor, IUPUI STEM/SEED Program

March 2017-December 2019

- Authorship in paper(s) submitted to **Journal of Comparative Neurology** - #JCN-21-0131
- ISEF Regional Science Fair Senior Division 1st place
- 2019 American Psychological Association Award
- 1200 lab hours logged, data used in lab grants, presented in multiple poster sessions, authorship in pending papers
- Year 1: Determining columnar organization of amygdala neurons projecting to periaqueductal gray
- Year 2: Identifying the morphology and function of CRH-Expressing central amygdala neurons
- Year 3: Mentored summer student in lab work and assisted in data collection and poster creation

LEADERSHIP

Primary designer and builder, Zionsville High Robotics Team 7701X

August 2017-May 2020

- Team coach, primary designer, and robot assembler for VEX Robotics Competition
- 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
- Specializing in lift construction (four-bar, double reverse four-bar, scissor lift), creating drivetrain differentials, 3D-printing custom gears and sprockets on Ultimaker platform, and pneumatics usage
- Improved and applied **PID controllers** as well as **odometry** for autonomous motion and tracking of robot

Project Manager, ZCHS Renewable Energy

August 2019-May 2020

- Student founder, seeking grants and investments from local community to develop solar grid to power community schools to facilitate net-zero emissions, coordinate fundraising and guest speakers

SKILLS

- | | |
|---|---|
| • Programming (MATLAB, Python, CSS, HTML) | • CAD and Simulations (SolidWorks, Abaqus) |
| • Oscilloscopes and breadboarding (nScope) | • Confocal and Electron microscopy (ImageJ) |
| • Mill and lathe trained (Robotics Machining) | • Wet laboratory equipment and tools |