# 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 Laboratory ***May 2021-Present***

- Performing fracture analysis on composites, shale, and concrete to determine material properties for manufacturers
- 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)
- Oscilloscopes and breadboarding (nScope)
- Mill and lathe trained (Robotics Machining)
- CAD and Simulations (SolidWorks, Abaqus)
- Confocal and Electron microscopy (ImageJ)
- Wet laboratory equipment and tools