

Adrian Lechuga Diaz

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EDUCATION

Northwestern University - Evanston, IL

Anticipated Bachelor's Graduation: June 2024

Robert R. McCormick School of Engineering and Applied Science

Combined Bachelor and Master of Science in Mechanical Engineering, Segal Design Certificate

GPA: 3.78/4.00

PROJECTS

Advanced High School Physics Experiment Apparatus

Sept. 2023 - Present

Design, Research, Manufacturing

- Collaborated with seven other senior engineers to research, design, fabricate, and test a versatile apparatus enables Evanston Township High School physics students to perform advanced fluid and granular experiments by delivering controlled laminar flow of various fluids, along with a capability to adjust arrangement of components to form novel experimental set ups.

Northwestern Formula Racing

Sept. 2022 - Present

Lead Ergonomics Designer and Manufacturer

Suspension Arms Researcher, Designer, and Manufacturer

- Researched, prototyped, and restructured the ergonomic design of Northwestern Formula's first two electric racecars, meeting specifications supplied by FSAE in each respective year.
- Gained further hands-on experience and trained younger student engineers in shop skills to manufacture the vehicle's floor, seat, firewall, and headrest with materials such as carbon fiber, fiberglass, Kevlar, honeycomb Nomex, and aluminum.
- Researched new methods to develop suspension arms out of carbon fiber and aluminum rather than solid steel for enhanced performance.

CNC Mill Dust Control

Apr. 2021 - June 2021

Design, Research, Manufacturing

- Led a team of four engineers to research and design an efficient method to control CNC mill's dust exposure in the Ford Design Center.
- Oversaw team meetings and task organization, prototype development, and creation of a research website to present final prototype.

Stabilization-Assistive Cutting Board

Sept. 2020 - Dec. 2020

Design, Research

- Researched how users with limited or no use of one hand experience issues in food stabilization while chopping in the meal preparation process.
- Partnered with three engineers to design a cutting board with various features allowing individuals to independently cut food with one hand.

EXPERIENCE

Segal Design Institute - Evanston, IL

June 2023 - Sept. 2023

Design Engineering Intern – Summer Internship

- Continued a prior senior capstone project in developing an outdoor motorized therapy swing for individuals with cerebral palsy.
- Designed a mechanical hoist system on SolidWorks, facilitating safe exits from sit-on-top kayaks for seniors with limited lower body strength.
- Led a team of four in initiating a human-centered project to design, prototype, and test a personal backpack clip to decrease clutter in a classroom and deliver a more accessible option compared to leaving backpacks on floors.

JKA Remodeling, Inc - Carpentersville, IL

June 2022 - Sept. 2022

Project Engineer Intern – Summer Internship

- Collaborated on Microsoft Excel spreadsheets to maintain, organize, and optimize project schedules.
- Developed a program for managing costs, budget, and other data, leading to better organization, and reduced future costs.
- Assessed overall operations for researched quality standards and revised material purchasing strategies based on potential supplier prices.

Interior Construction - Chicago, IL

May 2016 - Oct. 2022

Operations Assistant

- Served as liaison between professionals, contractors, and clients by communicating inquiries, issues, and invoices.
- Devised a program to keep data of previous and present jobs, providing better estimates to maximize profit and minimize expenses.
- Assessed final operations for known quality standards and restructured material purchasing strategies based on different supplier prices and locations to respective jobs.

EXTRACURRICULARS & ACTIVITIES

Northwestern Formula Racing (NU FSAE) - Evanston, IL

Sept. 2022 - Present

Society of Hispanic Professional Engineers (SHPE) - Evanston, IL

Sept. 2022 - Present

American Society of Mechanical Engineers (ASME) - Evanston, IL

Jan. 2021 - Present

Knight Community Scholar - Evanston, IL

Aug. 2020 - Present

QuestBridge, National Hispanic & Illinois State Scholar, HSF Scholar - United States

Dec. 2019 - Present

SKILLS & INTERESTS

Computer Skills: SolidWorks CAD (intermediate), MATLAB (intermediate), Python (intermediate), NX CAD (intermediate), Microsoft Office (intermediate), NX Siemens Computer-Aided Manufacturing [CAM] (intermediate), Finite Element Analysis [FEA] (intermediate)

Technical Skills: Mill, Lathe, Laser Cutter, CNC Mill, 3D Printer, Woodworking, Hand Tools, Curing Composites (Carbon Fiber, Kevlar, Fiberglass)

Languages: English (Reading, Writing & Conversing), Spanish (Reading, Writing & Conversing - Native Speaker) – Dual American/Mexican citizenship

Interests: Product Design, Project Management, Mechanical Design, Basketball, Baseball, Football, Soccer, Music, Investment, Weight Lifting

Affiliations: Society of Hispanic Professional Engineers, American Society of Mechanical Engineers, First-Generation, Knight Community Scholar, Hispanic Scholarship Fund Scholar, QuestBridge Scholar, National Hispanic Scholar, Illinois State Scholar, Northwestern Formula SAE