

Ulises Mendoza

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EDUCATION

University of Illinois Chicago

Chicago, Illinois

Bachelor of Science in Mechanical Engineering, Minor in Finance

Expected Graduation: May 2029

Relevant Coursework: Engineering Design & Graphics (CAD), Programming for Engineers (MATLAB), Applied Linear Algebra, Financial Engineering, Introduction to Finance

SKILLS

Software: SolidWorks, Solid Edge, Ansys, MATLAB, Excel · **Languages:** Spanish (fluent)

Fabrication: TIG welding, 3D printing, soldering, Arduino, calipers, micrometers, shop tools (saws, drill press)

Engineering Methods: Design for Manufacturing (DFM), tolerance analysis, material selection, sheet metal, DXF/STEP for CNC

PROJECTS

Hybrid Steel-Oak Under-Desk Storage Enclosure | *SolidWorks, Sheet Metal, DFM, CNC* August 2026 – Present

- Modeling a 4-foot standing-desk storage assembly in SolidWorks, applying DFM principles including bend allowances and K-factors.
- Specifying two top-mounted linear guide rails to conceal hardware from the side profile, holding tolerances for zero-binding 14-inch extension.
- Designing the body as a single bent 16-gauge steel part joined to four oak accents with threaded blind inserts; generating DXF and STEP files for CNC laser cutting and press braking.

Kinetic Spring-Powered Sled Mechanism | *Spring Design, Failure Analysis* August 2025 – December 2025

- Prototyped a spring-powered sled that traveled 30 ft under strict material and sustainability constraints.
- Calculated spring constants and stored energy for linear torsion springs repurposed from a 3-foot measuring tape, at near-zero material cost.
- Traced a spring housing failure in testing to a friction-fit joint, identifying bolted fastening as the fix.

EXPERIENCE

Mendoza Landscaping (Family-Owned) | *General Manager* | *Waukegan, Illinois* March 2020 – Present

- Helped launch the company and have grown it from 2 to 6 staff across 3 crews and from 20 to 100+ recurring clients; lead day-to-day operations across scheduling, staffing, and route optimization.
- Own the full job pipeline behind six figures in annual gross revenue: 100+ site estimates per season, contract negotiation, landscape designs, material takeoffs, budgeting, and cost control.
- Manage 100+ client relationships end to end, handling escalations and sustaining roughly 99% season-over-season retention.

STUDENT INVOLVEMENT

Society of Automotive Engineers (SAE) | *Formula – Frame Lead* February 2026 – Present

- Promoted to Frame Lead, directing a 5-person sub-team responsible for frame, aerodynamics, and body on UIC's combustion Formula car.
- Own the team's Structural Equivalency Spreadsheet (SES) submission, documenting the structural calculations that prove the steel tube frame design meets FSAE requirements.
- Model the 30-part frame and jig assembly in SolidWorks, including supports and the dash housing.
- Cross-reference the physical CAD chassis model against official FSAE structural regulations to ensure compliance.

Society of Hispanic Professional Engineers (SHPE) | *Member* August 2025 – Present

- Paired with an upperclassman mentor through MentorSHPE; attend chapter industry sessions including a GE Aerospace workshop.

American Society of Mechanical Engineers (ASME) | *Member* August 2025 – Present

- Attend chapter networking and industry events, including a tour of United Airlines' Chicago offices.

PROFESSIONAL DEVELOPMENT

Worcester Polytechnic Institute (WPI) | *Pre-College Summer Program* | *Worcester, MA* July 2024

- Two-week engineering fundamentals track in MATLAB Simulink and Arduino; pitched a team prototype.