

MOHAMMED K. ABDELMAGID

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EDUCATION

UNIVERSITY OF WISCONSIN-MADISON

Bachelor of Science, Biological Systems Engineering – **Machinery Systems** | May 2027

Relevant Coursework: Dynamics Systems | Fluid Power Systems | Geometric Modeling for Design and Manufacturing.

PROFESSIONAL EXPERIENCE

Lifetime Fitness, Skokie IL

Aquatics Instructor and Lifeguard

June 2022 – August 2025

- Trained and mentored new lifeguards and swim instructors over a 3-year period, supporting consistent operations across high-traffic aquatic facilities and improving staff readiness through peer leadership.
- Conducted 200+ swim lessons across diverse age groups, teaching all four competitive swimming techniques and correcting stroke deficiencies through individualized instruction.
- Maintained aquatic facility safety and compliance by supervising swim operations and enforcing emergency protocols during high-pressure scenarios, earning 20+ positive parent and manager commendations over tenure.

ACADEMIC DESIGN PROJECT EXPERIENCE

Crane Project (Intro to Mechanical Engineering)

Fall 2024

- Designed counterweight and pulleys for crane project with SolidWorks, assembled and tested crane body over 10 iterations of design with 50% budget (\$11/20) used to lift specified weight of 1.75kg.
- Integrated NI myDAQ-controlled motor wiring and digital I/O logic to remotely actuate lifting and counterweight motors, enabling hands-free crane operation during testing and final evaluation at a tested velocity of 0.029m/s.
- Performed moment-balance and mechanical advantage calculations to size a dynamic counterweight system, preventing crane tipping while lifting a 1.75 kg load.

Thermal Oven Design (Geometric Modeling for Design and Manufacturing)

Spring 2023

- Designed the main oven body and completed final integration of 11 other physical components from other team members over 10 iterations for thermal oven project in condensed 1.5-day timeline using SolidWorks and 5 new design tools for consolidation.
- Applied Geometric Dimensioning and Tolerancing principles to define critical dimensions and tolerances for oven panels, door interfaces, and mounting features, producing manufacturable drawings that ensured proper assembly across all subsystems.

INVOLVEMENT

Alpha Lambda Mu Fraternity

January 2025 – Present

- Planned and executed multiple fundraising initiatives that collectively raised hundreds of dollars, while strengthening brotherhood through communication, trust-building, and internal leadership.
- Contributed to a values-based fraternity focused on brotherhood, leadership development, and personal growth, fostering trust, accountability, and unified purpose among members through active participation and mentorship.

Dance Marathon

August 2022 - May 2022

- Coordinated large-scale fundraising events, including a 5K run, contributing to a total fundraising outcome of approximately \$40,000.
- Served as Finance Chair by tracking weekly fundraising totals, reconciling proceeds, and submitting funds to the school treasurer, ensuring accurate accounting toward a \$40,000 end-of-year goal.

SKILLS

Proficiencies: SolidWorks, Fusion 360, AutoCAD, 3-D Printing, Shop machines (including drill press, lathes, and mills)

Other Tools: Python, Microsoft Excel, MATLAB

Global Languages: Arabic