

ZSOLT OKECHUKU

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EDUCATION

Texas A&M University

College Station, TX

Bachelor of Science in Mechanical Engineering

May 2028

Relevant Coursework: CAD Modeling, Thermodynamics, Engineering Mechanics, Materials & Manufacturing

GPA: 3.81

PROJECTS

Hydraulic Arm

College Station, TX

ASME (American Society of Mechanical Engineers)

February 2026

- Designed and built a hydraulic robotic arm using syringe actuators capable of lifting 400 grams.
- Engineered 3 degrees of freedom to transmit force into rotational, translational, and clamping motion via Pascal's law.
- Optimized geometry of linkages and joints to maximize structural rigidity and maintain full range of motion.

Pneumatic Motor

Bryan, TX

ACE CNC Bootcamp (America's Cutting Edge)

January 2026

- Manufactured and assembled 4 aluminum parts for an air engine capable of spinning at 2,000+ RPM.
- Programmed and operated a Haas 3-axis CNC mill using 2D CAM toolpaths generated in Fusion 360.
- Performed multistep tool operations using ATC, including facing, drilling, tapping, and chamfering.

Rowboat Toy

College Station, TX

Design Lead

August 2025 - December 2025

- Designed a rowboat toy using a Scott Russell linkage to convert rotational input into rowing motion across 2 iterations.
- Conducted tolerance analysis and developed a bill of materials to ensure proper fit of CNC created components.
- Refined design from a 7-part wooden prototype to a 14-part 3D-printed SolidWorks assembly

EXPERIENCE

Camp BUILD – Zachry Department of Civil & Environmental Engineering

College Station, TX

Camp Counselor

June 2025

- Mentored 16 engineering students on team-based design projects at an engineering summer program
- Directed a 4-member team to design a LiDAR drone for underwater debris scanning
- Designed, cast, and stress-tested reinforced concrete beams to resist $\approx 1,600$ psi of hydraulic force

LEADERSHIP & SERVICE

Professional Brotherhood of Engineers (PBE)

January 2025 - Present

Academic Officer

- Managed academic accountability for 100+ engineering undergraduates, overseeing GPA requirements and major families
- Sourced professional competitions and company tours each semester to support member development

Representing A&M by Performing Service (RAMPS)

August 2024 - Present

Volunteer Builder

- Constructed and renovated 13 wheelchair ramps for veteran, elderly, low-income, and disabled homeowners
- Improved build efficiency by 25% by creating a jig to automate measuring and cutting process

Aggie Replant

August 2024 - Present

Site Manager

- Managed teams of 40+ volunteers in planting 150 trees across 3 sites, including residential areas and nurseries
- Maintained 0% injury rate through enforcing PPE use, leading pre-event safety briefings, and on-site supervision

SKILLS & CERTIFICATIONS

- **Technical Skills:** SOLIDWORKS, CNC machining (*Haas Basic Mill Operator Certified, Haas Basic Lathe Operator Certified*), 3D Printing, Autodesk Fusion, Python, Microsoft Excel, Microsoft Office, Google Workspace
- **Languages:** English, Spanish
- **Interests:** Photography, Video Editing, Volleyball