

Robert Horvath

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EDUCATION

Bachelor of Science, Mechanical Engineering

May 2025

Elements of Computing Certificate

The University of Texas at Austin

GPA: 4.0/4.0

Relevant Coursework: Statics, Thermodynamics, Engineering Design, Elements of Software Design

ACTIVITIES AND EXPERIENCE

Harmonic Bionics, Mechanical Engineering Intern

May 2022 – August 2022

Longhorn Racing (Formula SAE Electric), Dynamics Lead

June 2022 - Present

Longhorn Racing (Formula SAE Electric), Suspension Lead

Sep 2021 – June 2022

- Oversaw design, structural analysis, and functionality of suspension subsystem
- Created a mechanism with variable cantilever stiffness via moment of inertia changes to provide adjustable roll stiffness of vehicle
- Wrote constrained optimization program in Python to generate large degree of roll adjustability without yield of components
- Worked with simulations to reach target roll center, static camber, camber gain, etc.
- Designed various suspension components in Solidworks and managed integration with other vehicle systems
- Helped machine suspension and managed allocation of work throughout manufacturing season

Saxophone Repair

Aug 2016 - Present

- Refined mechanical systems of the instrument
- Tightened tolerances to reduce free play while still preventing friction within the system
- Created inserts to modify internal diameter and length of tube to refine tuning

World Cube Association, Staff/Organizer

Mar 2014 - Present

- Staffed and organized Rubik's Cube competitions
- Held state record in the pyraminx event for two years
- Managed large groups of individuals and worked to keep busy events on schedule
- Prepared and monitored numerous competitors to collect official data
- Staffed for US Nationals 2016, 2018, and 2019 with 534, 634, and 751 competitors, respectively

SKILLS

- Programming Languages: Python, Javascript (HTML/CSS)
- Software: Solidworks, Microsoft Office
- Machining: Manual Lathe, Manual Mill
- Spoken Languages: English, Hungarian