Robert Horvath

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Education

UT AUSTIN
BS in Mechanical Engineering, Certificate in CS
📅 Fall 2024   📍 Austin, TX
GPA: 4.0/4.0

Links

🐙 GitHub **rhorvath02**
in Linkedin **rhorvath2002**

Coursework

Algorithms and Data Structures
Engineering Computation
Engineering Design
IOS Computing
Mechanics of Solids
Dynamics
Statics
Thermodynamics

Skills

PROGRAMMING
Python • Swift • Matlab • HTML/CSS

SOFTWARE
Solidworks • Git • Google Suite • Microsoft Office

MISC
Machining (Lathe, Mill, Power Tools, Etc.)

LANGUAGES
English • Magyar

Honors

ENGINEERING HONORS
Designates that an engineering student ranks in the top ten percent of their class and department

UNIVERSITY HONORS
(Fall 2021, Spring 2022)
Awarded to students who earn at least 45 grade points, maintain a GPA of at least 3.50, and have no incomplete grades.

Experience

LONGHORN RACING
📅 Sep 2021 – Present   📍 Austin, TX

Lead Dynamics Engineer
- Wrote a script that optimizes vehicle trajectory by minimizing curvature along a given track
- Analyzed tire data to create generalized fits for simulation use
- Created models to define load cases and drive design choices
- Coordinated with suspension, unsprung, and steering subsystems (managed timeline, assigned tasks, oversaw all design work)
- Handled research and implementation of new technologies

Lead Suspension Engineer
- Oversaw design, structural analysis, and functionality of suspension subsystem
- Wrote constrained optimization program in Python to maximize roll adjustability without yield of components
- Worked with simulations to reach target parameters (roll center, camber gain, toe gain, roll stiffness, etc.)
- Designed various suspension components in Solidworks and managed integration with other vehicle systems

MECHANICAL ENGINEERING INTERN
Harmonic Bionics, Inc
📅 May 2022 – Aug 2022   📍 Austin, TX
- Designed actuator life cycle tests to ensure functionality between maintenance periods
- Gathered max torque outputs by simulating upper bound of patients (values important in life cycle tests)
- Designed calibration fixtures for precise tuning of load cells and verification of springs (spring constant and free length)
- Employed GD&T in the drawing and manufacturing process
- Worked with medical device quality system

SAXOPHONE REPAIR
Personal Project
📅 Aug 2016 – Present
- Refined mechanical systems of the instrument
- Tightened tolerances to reduce free play while preventing overconstraint of the system
- Created inserts to modify internal diameter and length of tube (refined tuning)

COMPETITION STAFF/ORGANIZER
World Cube Association
📅 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