

ATA ZAVARO

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EDUCATION

Cornell University, Ithaca, NY

Expected December 2025

B.S. in Mechanical Engineering, Minor in Applied Economics; GPA: 4.0/4.0

- Relevant Coursework: Advanced Product Design, Automotive Engineering, Mechanics of Composite Structures, Polymer Mechanics, Mechanics of Engineering Materials, Thermodynamics, Fluid Mechanics, System Dynamics, Mechatronics
- Honors: Dean's List (All Semesters)

TECHNICAL EXPERIENCE

Tesla, Drive Systems Structures, *Mechanical Design Engineering Intern*, Palo Alto, CA

August 2024 – December 2024

- Engineered a versatile, hand-assembled gimbal rig with dual-axis rotation and a precision braking system to lock orientations, enabling seamless investigation of diverse drive units (up to 100kg) at various angles, with adaptable mounting systems for rapid transitions and a center-of-gravity design below rotational axes to ensure stability and operator safety.
- Fabricated precision tooling for a drive unit cover by analyzing multiple drawings and applying complex GD&T principles, ensuring accurate manual installation of plugs and dowels to match automated system precision, resulting in seamless assembly
- Developed and delivered a gasket test setup for gearcase assemblies in one week under tight deadlines, replicating real-use conditions (interface, bolts, torque, dimensions) to validate performance in a critical evaluation.
- Designed a geartrain part that will go into an upcoming drive unit, and made the engineering drawings, using CATIA V5 & V6
- Performed leak tests using a custom setup, to validate if a design change that would decrease the cost of a drive unit is viable
- Working with a team of 8 engineers to design the drive units of several vehicles, and conducting validation tests

Robert F. Shepherd, Organic Robotics Lab, *Research Assistant*, Ithaca, New York

May 2024 – Present

- Designing a fishtail system with one degree of freedom using Siemens NX, that is optimized and prototyped with 3D printing
- Conducting research on soft robotics and designing biomimicry-based systems under the supervision of Professor Shephard
- Fabricating high precision dynamic systems to test and optimize the combustion, and quantify the thrust produced by the tail
- Designing an analog timer circuit along with its PCB to control the frequency of combustion within the actuator
- Performing experiments that include high voltage, combustion, and water to evaluate the fish system

Cornell Nexus, *Mechanical Subteam Lead*, Ithaca, NY

April 2022 – December 2023

- Collaborated with a 31-engineer team to design an autonomous robot for collecting microplastics from beach sand
- Led an 8-member mechanical engineering team to design the drivetrain from scratch within the budget and material limitations
- Modeled functions of the robot's mechanisms to test interactions between systems using SolidWorks
- Designed a base station with three floors where the robot will deposit microplastics and recharge its battery using solar energy
- Utilized ANSYS to analyze the stress and deformation of parts to ensure that the factor of safety was sufficient
- Redesigned the drivetrain so the motors were connected to the wheels through drive shafts supported by two bearings instead of the motor shaft, transferring the load of the robot from the motors to the shaft, preventing a major design flaw

SAMET, *Product Design Intern*, Istanbul, Turkey

June 2023 – July 2023

- Worked within the R&D department, along with 92 engineers, designing hinge systems, drawer systems, lift-up door systems, and the machinery required for production, such as vibratory feeder bowls and linear conveyor systems
- Participated in a full engineering design process, where a hinge was designed from scratch, prototyped multiple times, optimized, and prepared for delivery to a valued customer
- Analyzed the stress and deformation of a drawer system using ANSYS to make sure the design met US safety standards

OTHER EXPERIENCE

THINK NEURO, *Research Assistant*, Istanbul, Turkey

February 2020 - May 2021

- Conducted sentiment analysis on advertisement data from 100+ participants, identifying emotional responses.

ACHIEVEMENTS & CERTIFICATIONS

Cornell University Online Education: A Hands-on Introduction to Engineering Simulations (ANSYS)

November 2020

- Learned how to analyze real-world engineering problems using ANSYS simulation software
- Studied the fluid dynamics simulations using ANSYS Fluent, the structural mechanics simulations using ANSYS Mechanical, and the mathematical models underlying simulations

IBM Online Education: Python Basics for Data Science

July 2020

- Explored Python language fundamentals, and learned how to use functions and import packages, built NumPy arrays, and studied Python scripts, machine learning, and data visualization, and performed basic data analysis using IBM's Watson Studio

SKILLS

Technical: MATLAB, ANSYS(Fluent/Mechanical), Python, SolidWorks, Fusion, CATIA V5, CATIA V6

Fabrication: Manual Lathe, Manual Mill

Languages: Turkish (Native), English (Fluent), Spanish (Limited working proficiency)