Jainik Mehta

Contact Info

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https://falconsupernova.github.io

Languages

English: Full working Proficiency

Hindi: Native

Gujarati: Native

Hebrew: Elementary Proficiency

Citizenship : Indian

Born : 06/07/2001

Age: 21 years as of 02/2023

Mechanical engineering student (robotics major) offering 2 years of experience in 3-d modelling and printing, CNC machining, linear and non-linear control systems, electric actuators, and engineering simulation. Actively involved in fields of heat transfer, fluid mechanics, rocket propulsion technologies, and defense robotics.

Education

07/2019 - 08/2023 — **BSc. in Mechanical Engineering**
Technion Israel Institute of Technology, Haifa, Israel
GPA – 84

Planned – 10/2023 – 05/2025 — **MSc. in Mechanical Engineering**
Technion Israel Institute of Technology, Haifa, Israel
Advisor – Prof. Omri Ram
(Already started working on final thesis)

Relevant Experience

Student Researcher (04/2022 – 08/2023)

Complex flow Laboratory, Aerospace Department, Technion
PI - Prof. Ian Jacobi's

- Designing and building experimental apparatus for Rayleigh -Taylor turbulent instability criterion induced via nanoparticles.
- Challenges involved making a few millimeters thin slider with microns thick inner wall and designing gearbox for rotating nylon fabric at accurate velocity over that slider.

Structural engineer (02/2022 – ongoing)

Technion Rocketry club, Israel

- Students from various faculties across the Technion aiming to gain experience in rocketry. Our goal is to design, build and fly rockets with the help of mentors from different fields across academia and industry.
- My role includes designing, building and testing rocket fuselage.

Student Ambassador (02/2020 – 01/2021)

Technion International, Israel

- My responsibilities included promoting the Technion International undergraduate studies program, meeting with, and speaking to potential students.

Founder (09/2017 – 01/2019)

Elvister.com – Student operated blogging website.

- In collaboration with my teachers and classmates, I utilized my skills in CSS and HTML to design and develop a website that presents the latest scientific research in a simplified and interactive manner. I used PHP to build the server backend as number of users grew.
- The website was specifically aimed to spark interest among high school students who mostly avoid reading research paper due to complex mathematical notation and scientific jargoon.

Programming Languages

PHP
HTML
CSS
C
C++
Python
Dart

Software Knowledge

DaVinci RESOLVE
MATLAB
ANSYS
EES
SOLIDWORKS
CREO
ROS
BLENDER

External Courses / Seminars

Courses through NPTEL–

- Probability and Statistics(2021)
- Quantum physics(2021)

Courses taken at DTU Denmark–

- Digitalization of thermal energy technologies – Prof. Jonas Jensen(2022)

Seminars and Competition –

- Technion annual robotic seminar.
- TSCIT – Wiz quiz (2018 and 2019)

Research and Projects

- 05/2022 – 07/2022: I utilized the Creo computer-aided design software to design a fully automatic potato peeling machine tailored for small to large size restaurants. This innovative machine could possibly peel potatoes in as little as 10 seconds, providing significant time savings for busy food service operations. The design incorporates a user-friendly interface to facilitate ease of use and maintenance.
- 10/2022 – 07/2023: We are designing and building a tank-shaped robot using ROS, Arduino, SolidWorks, and Raspberry Pi to collect Alligator eggs. The robot will have a 4 DOF arm installed on top of the tank along with a specialized gripper mechanism to grip the eggs. Some parts will be 3-D printed, while others will be machined out of aluminum.
- 07/2022 – 02/2023: Modeled and simulated a Nuclear Thermal Propulsion rocket engine's using MATLAB App designer and BoilFAST. The simulation provides necessary information about various rocket parameters like hydrogen boil off rate and specific impulse of rocket.
- 11/2022 - 01/2023: I built an app using Flutter that incorporated machine learning model coded in Python to detect diabetic retinopathy with 95% accuracy. The app took an image of the eye via a smartphone camera for analysis.

Honour and Awards

- Gold medal in BME hackathon (2022)
- Technion international Merit based scholarship (2019)
- Certificate of Merit – Given to top 5 % of students. (2020)

Volunteering

Technion Melech club Member (2020-2021)

- A club special club whose purpose is to collect old computers from people across Haifa, upgrade and repair them, and donate them back to those in need.
- My responsibility include upgrading HDD to SDD, adding new RAM modules and reinstall operating system via common server.

Member at Technion Robotics Initiative (2022)

- We are a group of students and faculty from various departments across the Technion, our goals are to improve higher education in robotics and to encourage student involvement and cross-faculty collaboration in research.
- This club organizes various seminars and invites researchers from various universities.

Personal Projects

- Started YouTube channel for teaching undergraduate level mechanical engineering related concepts with interactive examples. I decided to cover a range of topics including classical dynamics, heat transfer phenomena and fluid mechanics.
- Made 2-D sprite-based video game using WIN-32 API and C language.
- Started a startup in the field of machine learning and defense robotics which is currently in stealth mode.