

DADMEHR DANIEL GHASEMFAR

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EDUCATION

BS in Mechanical Engineering with Minors in Mathematics and Psychology – Duke University

Aug 2020 – Dec 2024

Relevant Courses – intro & intermediate robotics, intermediate dynamics, chaos and perturbation theory, control theory, heat and mass transfer, incompressible fluid dynamics, algorithms and data structures, ODE & PDE's, numerical analysis, intermediate solids and statics, aircraft performance and design

Honors – Pratt Research Fellow, Two-Year Research Distinction, Iranian Scholars Federation

3.48 Cumulative GPA → **3.56 Engineering Major GPA** + 3.50 Mathematics Minor GPA + 3.0 Psychology Minor GPA

EXPERIENCE

Engineering Consultant – 3DA [thinktank] – Alexandria VA

August 2024 - Present

3 Darvazeh Argan Energy is an electronic solutions startup based in Iran. The founder, Siavash [Ali] Gholamhosseinpour, has 34 patents and 30+ years' experience in high energy Physics. I translated and edited the technical documentation of a new FDS, Low-Voltage Insulation Resistance and HiPOT Integrated Tester called SAARTRAP. I am currently working on collecting sponsors and pooling investment to establish 3DA Energy in the US.

Research Assistant – Duke General Robotics Lab – Durham NC

August 2022 – May 2024

I worked under Dr. Boyuan Chen to build and develop a versatile and accurate FEA-style parallel-processed wave propagation simulation to generate artificial data for a novel A.I. that can "see with sound". I also created a novel Chladni plate test to connect simulated data to real life vibrational data. See my website for the full writeup of the work. I left the lab after graduation.

Lab Technician – FPrin. LLC – San Jose CA

October 2020 – February 2021

I designed, built, and operated case-specific test devices to effectively characterize a recently patented German compressed gas-powered insulin pen. I also designed and manufactured a fully functional self-balancing RC PID controlled robot named Balanciaga. In between these two big projects, I stress tested thousands of components and maintained the machine shop and primary electronics lab. I left due to relocation from the Bay Area.

Senior Lead – GoBringIt [Duke University] – Durham NC

June 2022 – March 2024

I facilitated successful operations for Duke's GoBringIt food delivery, assisting with scheduling, logistics, and technical troubleshooting. On busy days I would manage and collect over one thousand dollars.

Head of PCB Design – Null Designs LLC – Mountain View CA

May 2020 – Sept 2020

Explored tactile and low-budget computer keyboard systems for a start-up that a high school friend founded right after graduation. Designed the underlying PCB using the ATMEGA-32 chip firmware as a base in Eagle. Tested numerous keys for ease-of-use and compatibility.

SKILLS

- CAD – SolidWorks, Fusion 360 and Autodesk
- FEA and CFD – Ansys and SolidWorks
- Milling and Lathing
- Python, Java, JavaScript, TensorFlow and C++
- Numerical Analysis and PDE Approximation
- PCB Design and Mechatronics
- CAS – Maple and Mathematica
- 3D Printing – SDF (8+ years), SLS, and Metal Sintering
- Laser Cutting and CNC Routing

ACTIVITIES

Cross Country Team Captain, Two Marathons, 24 Hour Duke Design Sprint Winner, IIb Battle Robotics Competitor, Part-Time Calculus and Linear Algebra Tutor for 5+ Years, Three Time XC State Competitor, City of Mountain View Mayor Recognition and Medal for High School A.I. Study on Forest Fire Prevention, Two Time Synopsys Science Fair Finalist