Adnan Jafferjee

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For detailed portfolio descriptions and images, please visit: AdnanJafferjee.com

Education

University of Pennsylvania, Philadelphia, PA

Candidate for Master of Science in Engineering: Robotics, May 2019 | Cumulative graduate GPA: 3.57/4.00

Bachelor of Science: Mechanical Engineering and Applied Mechanics (MEAM), December 2018

Undergraduate Minor in Engineering Entrepreneurship | Cumulative undergraduate GPA: 3.52/4.00

Selected Coursework: Control of Autonomous Robots, Advanced Mechatronics, Advanced Robotics, Integrated CAD/CAM/CAE, Machine Design, Computer Vision, Feedback Controls of Dynamic Systems, Design for Manufacturability, Materials for Manufacturing, Product Design, PCB Design, Aerodynamics

Engineering Projects:

- Designed RehabiliGait: 2-DOF robotic exoskeleton for gait rehabilitation of stroke patients suffering from drop-foot
- Manufactured a robust 3-axis CNC wood router capable of achieving 0.015" tolerances for under $1500
- Programmed a self-driving car to localize and navigate roads using computer vision and sensor fusion
- Built a team of 3 autonomous robots to play hockey for competition, using mechanical, electrical and controls systems design
- Led design of quick jack, push bar and collaborated on carbon-fiber airfoil design as a member of the mechanical team of Penn Electric Racing (Nationally recognised FSAE team of 55 building an electric race car for competition).

Employment

Creator, Inc. - San Francisco, CA — Summer 2018
Mechanical Engineering Intern
- Prototyped full-scale machine vision-based inspection of food items on a conveyance system for a hamburger-making robot
- Designed camera module mounting HW, wrote custom OpenCV-based object-detection SW for Beaglebone microcontrollers
- Formulated testing procedure and fabricated validation apparatus for Geneva-driven conveyor gearbox modules

Tesla - Fremont, CA — Summer 2017
Quality Engineering Intern
- Built and managed Power Thermal Charge Endurance and Capacity tests for pilot production Model 3 HV battery packs
- Implemented HW/SW modifications to interact with environmental testing chambers, coolant chillers and HV-grid discharge
- Designed measures to identify suspected defective parts and implement logistics for efficient containment processes
- Planned layout, sourced materials and designed process flow for Model S and X HV battery field failure analysis workstation

Athos - Redwood City, CA — Summer 2016
Mechanical Engineering Intern
- Formulated tests to determine stretch resistance and conductive durability of printed inlay fabrics for wearable electronics
- Stress-tested and iterated prototypes of new waterproofing designs for wearable electronic components
- Coordinated logistics for beta-testing products with external audiences of target customer segments

University of Pennsylvania - Philadelphia, PA — August 2017 - Present
Lab Manager, Weiss Tech House Hardware Lab
- Organized lab operations and events, hiring, materials and equipment procurement
- Managed 5 student workers in assisting lab users with mechanical and electrical fabrication
- Provided design reviews and recommendations for student academic and personal electromechanical projects

University of Pennsylvania - Philadelphia, PA — August 2018 - Present
Teaching Assistant, MEAM Senior Design
- Lead three teams of 6 engineers through design, management and presentation of year-long capstone engineering projects

University of Pennsylvania - Philadelphia, PA — August 2016 - Present
Rapid Prototyping Laboratory Technician
- Train students and troubleshoot issues with the use of fleet of PLS 4.75 laser cutters and MakerBot 3D printers
- Conducted machine maintenance and debugging, ensuring safe working environment for lab users

Skills

- Software: MATLAB, SolidWorks, SolidCAM, Keyshot, Altium, Eagle, C/C++, SQL, Python, OpenCV, Git, Arduino IDE
- Design and Manufacturing: 3+ Axis CNC Metal and Wood Fabrication, Injection Molding, PCB Design and Manufacturing, Carbon Fiber Layup, Urethane and Silicone Rubber Molding, Rapid Prototyping with 3D Printing and Laser Cutting

Activities

- President of Penn Barbell Club (Penn's first ever competitive sports club for powerlifting and Olympic weightlifting)
- Volunteer English Teacher and Activities Organizer at the CCC Foundation, a Sri Lankan children's cancer hospital