

ANNANYA TYAGI

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EDUCATION

Bachelor of Science Mechanical Engineering

University of California, Davis

Davis, CA

Expected Jun 2022

MECHANICAL Experience

Drive Controls and Power Lead

RoveCrest – Student Engineering Design Team

Davis, CA

Sept 2019 – Present

- Heading a team of 4 members in charge of controlling outrunner BLDC motors with hall effect sensors using **ROS** in Ubuntu and powering a 70 kg rover capable of running 6mph in slippery terrain.
- Applying coursework from Circuits and Kinematics to program a 2-wheel drive using an **ESC** controlled **Arduino** Mega and Motor shield and externally controlled by Xbox controller from remote station
- Configuring a Battery Cooling System (**BMS**) for 18650 cell battery configuration that is able to handle 85-100°F

Propulsion Engineer – Linear Induction Motor (LIM)

OneLoop - Student Engineering Design Team

Davis, CA

Sept 2019 – Present

- Designing a LIM with toroidal winding to reach supersonic speed in a vacuum tube of 0.125 PSI
- Simulating placements on track and winding configurations in **ANSYS** with several tooth geometries on **SolidWorks (CAD)** and **Fusion 360 (CAM)** to find the optimal parameters to mitigate end-effect behavior, making the pod faster
- Built a physical test stand to test simulation results and coil winder to wind 800+ coils faster
- Creating a math model from class knowledge of Electromagnetism, Matrices, and Differential Equations on **MATLAB** to control different frequencies for acceleration and deceleration over 10km track with curvature

SOFTWARE Experience

Autonomy Intern – Robotics

Monarch Tractor

Livermore, CA

Jun 2021 – September 2021

- Programmed LED light-strip animations onboard tractor in **Python** and integrated in **ROS** in response to tractor haptics
- Configured cheaper radios to receive **GPS RTK** corrections for localization
- Created architecture and built a Demo reservation system using **Google Apps Script** and **JavaScript**

Software Engineering Intern – Seattle Liquid Studios/ Innovation Hub

Accenture

Seattle, WA

Jun 2020 - September 2020

- Transferred data from IoT sensors on **Raspberry Pi** to Cloud using **AWS S3** to store data, **IoT Core** to manage sensor data, **Lambda & Python** to track anomalies, and **CloudWatch** to sound an alarm when temperature or humidity passed threshold value in factory equipment.
- Created facial recognition algorithm using **AWS SageMaker** to detect known and unknown faces from security cameras for intruder scenario
- Developed chatbots for store representatives to gather customer information quickly using **Amazon Lex** and voice-enabled services using **Amazon Alexa**

MANAGEMENT Experience

Project Manager

OneLoop – Student Engineering Design Team

Davis, CA

September 2020 – Present

- Applying Agile methodology to create weekly tasks for 11 sub-teams to adhere to **Gantt chart** planned for competition in Spain (European Hyperloop Week) using **Trello**
- Hosting and co-leading weekly Zoom hands-on meetings for 70 general members to facilitate inter sub-team dialogue
- Meeting and building relationships with old and potential sponsors to provide team updates

PROJECTS

Available to view: <https://annanyatyagi12.github.io/pages/projects.html>

ACHIEVEMENTS

Dean's Honors List

December 2020

Accenture Innovation Challenge – 1st Place, Round 1

Feb 2020

President's Award for Educational Excellence

Jun 2018