

Aryan MK. Durgam

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PORTFOLIO

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ACADEMIC ACHIEVEMENTS

Liberty High School, Frisco, TX
Aug-2020 – May-2024

GPA: 3.655 [on 4.0 scale]

SAT: 1360

HONORS / AWARDS

- **Texas High School Aerospace Scholars** from **NASA Johnson Space Center**, Houston, TX.
[Class 2023 Moonshot Virtual Experience]
- National Rural and Small-Town Award
- Taekwondo Black Belt 1st Degree

TECHNICAL SKILLS

- Java, GitHub
- Autodesk **Inventor** - Engineering
- Digital Animation using Autodesk **Maya** and Adobe **Photoshop**
- Microsoft Office Tools / Google Docs, Slides and Sheets

OTHER SKILLS

- Familiar with Aerodynamics and Thermodynamics principles.
- Strong problem-solving and critical thinking abilities.
- Excellent communication and teamwork skills.
- Fluent in English, Spanish and Telugu

OBJECTIVE

- Aspiring to be an Aerospace Engineer with a strong academic foundation, technical skills, and a deep passion for Aerospace Technology.
- Seeking admission into the Aerospace Engineering program in your esteemed University to contribute to cutting-edge research and innovation in the field of Aerospace Engineering and Technology.

PROJECTS - Engineering

CTE (Career and Technical Education Center), Frisco ISD.

Frisco, TX

August 2022 – May 2023

During my 1-year course in **Aerospace Engineering**, I have successfully completed below Projects:

- ✓ Electrodynamic Tethers – Space Propulsion System – Design Project
- ✓ Rocket Performance Analysis Report
- ✓ Sizing Up the Universe
- ✓ Aircraft Jet Engine Report
- ✓ Evolution of Flight: Rovers
- ✓ Effects of Microgravity on the Vestibular System

CTE (Career and Technical Education Center), Frisco ISD.

Frisco, TX

August 2021 – May 2022

Designed & Developed below Projects part of **Principles of Engineering** course at CTE Center:

- ✓ **Robot:** The plant workers need a more efficient and automated way to transport batches of parts within the plant to improve the flow of the plant. We must design, code, and build an Automated Guided Vehicle to drive in a straight line back and forth to deliver batches of parts.
- ✓ **Bridge:** Project Objective: Gain an understanding of bridges and how they work while designing one with a cost constraint.
Problem Statement: People need to get across to the other side but can't without a bridge.
Design Statement: Design a working bridge which costs less than \$400,000.
- ✓ **Truss Project:** This is a project about constructing and testing trusses. I grouped up with a student named Abhinav and solved two trusses. I completed the simpler triangle truss while he constructed the more complex truss and tested both with a Structural Stress Analyzer (SSA). The SSA puts weight onto the truss and records the amount of weight it can hold. We both solved the truss using paper and pen, then checked it using MD Solids.

RELEVANT COURSEWORK:

- Engineering Design & Development
- Digital Electronics
- Aerospace Engineering
- Principles of Engineering
- Introduction to Engineering Design
- Advanced Placement (AP) Courses:
 - ✓ AP Calculus AB
 - ✓ AP Physics 2
 - ✓ AP Computer Science
 - ✓ AP US History
 - ✓ AP World History
 - ✓ AP Env Science
 - ✓ AP Human Geography

✓ Other Projects including:

- Professional Interview with **Jay Fletcher**, Associate Director for Projects (Aeronautics Directorate) at **NASA Ames Research Center**
- Renewable Insulation, Fuel Cell Car, Compound Machine Design and Engineering Fields

CTE (Career and Technical Education Center), Frisco ISD.

Frisco, TX

August 2020 – May 2021

As part of **Introduction to Engineering Design**, I have successfully completed below Projects and Activities:

- ✓ Puzzle Cube, ISO Shapes, Beverage Server
- ✓ Perspective Sketch, Mini Train, Automata etc.

PROJECTS – High School Aerospace Scholars from NASA

NASA Johnson Space Center

Houston, TX

October 2022 – June 2023

Successfully completed two major projects listed below:

Online HAS curriculum:

I have successfully completed 4 different modules, each with a technology, engineering, science, and mathematics section with an overall 93.63%.

Throughout the duration of this course:

- ✓ Solved complex Math Problems.
- ✓ Designing tools for Astronauts.
- ✓ Learned about planets in the Solar System.
- ✓ Researched multiple projects & wrote essays.

Moonshot -The Virtual Summer Experience:

- ✓ Worked with a team of 13 members to play our role as the crew to plan our descent on Mars in the grand mission to set up a permanent civilization on Mars.
- ✓ We had to research, design, and plan the proper approach and the right technology needed to guarantee a safe landing.
- ✓ Lead and research various types of landing systems previously used for landing rovers such as the **SPLICE** and **Cobalt** systems.

PROJECTS – Digital Animation & Modelling

CTE (Career and Technical Education Center), Frisco ISD.

Frisco, TX

August 2020 – May 2023

Projects completed during my **High School Animation** career:

✓ Animation Projects:

- | | |
|------------------------|----------------------|
| ○ Ball Bounce | ○ Jump |
| ○ Dog on Couch | ○ Walk Cycle |
| ○ Ease in and Ease out | ○ Emotion Walk Cycle |
| ○ Head Turn | ○ Death Cycle |
| ○ Johnny Box | ○ Final Smash Bros |
| ○ Super Fox | ○ Unique Death Cycle |

✓ **Modelling Projects:**

- Bullhorn
- Lightsaber
- Widgets
- Taser

VOLUNTEER EXPERIENCE

Acquired extensive experience [100+ hours] with commitment and demonstrating a genuine passion to give back to the community:

- ✓ Learner, Interviewee, and Teammate at RedCross
- ✓ Photo Shooter at Texas Forever Fest
- ✓ General Helper for Oak Point Recreation Center
- ✓ General Helper at Tri-Now Endurance/Blackland Triathlon Event
- ✓ General Helper at Davis Public Library
- ✓ Handling customers and services

This resume reflects my dedication to the field of Aerospace Engineering, as evidenced by my academic achievements, hands-on experiences, and leadership roles.

I am excited about the opportunity to further my education and research at your university and contribute to the advancement of Aerospace Technology.

[Aryan MK. Durgam]