

## SKILLS

### CAD/CAE

- **SolidWorks, CATIA V5, Creo PTC & Fusion360** used on various projects involving **GD&T, Wireframe design, 3D Modelling, sheet metal design** and **rapid prototyping**.
- **CATIA & SolidWorks** used to draft 2D engineering drawings with FAI dimensions.
- Used **Ansys Workbench** to perform **FEA** on ATV Chassis & Mounting Tabs

### MECHANICAL

- **3D Printing & Laser Cutting** used to rapidly prototype parts and fixtures.
- Created **3D models** based on **DFM/DFA** principles
- **Statistical tolerance analysis** on tight tolerance assemblies
- Implemented **Root Cause Analysis, DFMEA** and mitigation plans to address design issues

### ELECTRICAL & SOFTWARE

- Simulated EM field & electric circuit using **Ansys Maxwell & SIMULINK**
- Programmed custom AC voltage module using **MATLAB**
- Manually tuned an ESC cell model using **Octave** in **Jupyter notebook & Python** by **NumPy**
- Manufacturing plant simulation by **Technomatrix**

## PROJECTS

### REGEN

- Regenerative suspension system with linear alternator

### ANIMATRONIC HAND

- Wireless humanoid hand that mimics hand gestures

### POINT LOCKING CLAMP

- Electrification of train track clamps for faster operation

### CNC PLANETARY GEARBOX

- Compact 3-planet herringbone gearbox for CNC NEMA 17 Motor via **rapid prototyping**

## EDUCATION

### C.E.G, ANNA UNIVERSITY

**B.E in Mechanical Engineering**  
Nov 2020 - Present

- First class with distinction
- Cumulative GPA : 8.72/10

### NEW PRINCE M.H.S.S

**Higher Secondary Education**  
Mar 2020

- School topper with centum in Comp. Sci
- Percentage : **93.33%**

## EXPERIENCE

### CEG Motorsports | Database Lead & Rollcage Engineer | Guindy, Chennai

Apr 2023 - Present

- Streamlined the database structure, reducing data entry errors by 30%
- Utilized the created data repository to support the team's **DFMEA** and **PFMEA**
- Designed a FRP seat, incorporating topology optimisation & ergonomics.
- Negotiated a sponsorship agreement, reducing production cost by 58%.

### Society of Mechanical Engineers | Documentation lead | Guindy, Chennai

May 2023 - Present

- Oversaw creation & maintenance of documentation for various society activities, including event planning, management & project coordination
- Collaborated closely with society members, leaders & faculty advisors to gather relevant information and conduct regular audits and updates to ensure standards

### Guindy Times | Event Coordinator | Guindy, Chennai

Mar 2023 - May 2023

- Led juniors in organizing & executing a captivating Family Feud event at annual fest

### CEG Motorsports | Senior Rollcage Engineer | Guindy, Chennai

May 2022 - Apr 2023

- Worked in Roll Cage and ergonomics Design, Analysis, Optimization and Fabrication of ATV for m-BAJA 2023
- Improved cockpit design and ergonomics using **RULA** analysis, significantly increased the cockpit factor of safety by 20% compared to the previous year.
- Devised efficient organizational framework, conducted comprehensive research on personnel remuneration pay and efficient factory layout for sales event.
- Produced part and tooling CAD drawings using **CATIA** and **GD&T**

### Airports Authority of India | Operations Intern | Chennai

Aug 2022 ( 4 weeks )

- Worked in the periodical maintenance of runway automobiles.
- Improved the manual checklist system by incorporating digital elements like GANTT Chart using Microsoft Excel which improved data retrieval rate

### CEG Motorsports | Junior Rollcage Engineer | Guindy, Chennai

May 2021 - May 2022

- Assisted seniors in the fabrication of single seator 4WD ATV for m-BAJA 2022
- Maintained the team's official website using HTML & CSS

### Meine Electric | Technical Associate | Chennai

Jul 2021 - Sept 2021

- Served as a Technical Associate and chassis engineer at a dynamic EV start-up.
- Designed the chassis using Fusion 360 and conducted research on material selection for improving aerodynamics of the vehicle for ESVC

## PARTICIPATIONS & AWARDS

### eBAJA | SAEINDIA | Chitkara University, Himachal Pradesh

Apr 2023

- Participated as visitor in the e-BAJA 2023 , a national intercollegiate motorsports competition

### mBAJA | SAEINDIA | NATRAX Pithampur, Madhya Pradesh

Mar 2023

- Secured first place in **Engineering design, Technology innovation** and won the **best 4WD** award

### Bridge Building | Cepheus | IIT Goa

Feb 2023

- Participated in the "Bridge Building" competition using CATIA and FEA

### MEGATV | Autosports India | Querim, Goa

May 2022

- Secured Overall Third Position and First place in Armageddon event ( S & T )

## CERTIFICATES

### COURSERA

- Introduction to BMS
- Equivalent Circuit Cell Simulation
- Motor and motor control circuits
- Converter circuits

### NPTEL

- Design of fixed wing UAVs