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 aishwaryabr3@gmail.com

PERSONAL ATTRIBUTES

Effective Communication

Skills Articulate communicator with an appreciation for the different communication styles required when working with other team members or with customers.

Honest and Reliable

Able to take on tasks with a degree of responsibility due to strong morals and ethics ensuring honesty and Reliability.

Time Management

Dedicated to effectively prioritizing and managing time by allocating tasks and activities and keeping track of them in diaries and daily to-do lists

CERTIFICATION

CADD Centre-NSDC
(Authorized course from
Skill India)

- CATIA Essential Course
- ANSYS FLUENT Essential Course

AISHWARYA LAKSHMI BR

MTech Aerospace Engineering

CAREER OBJECTIVE

To be part of the organization where I can enhance my knowledge and skills that I have attained during both my professional and academic career, I pride myself on doing the best possible job every time.

ACADEMIC QUALIFICATION

❖ MASTER OF ENGINEERING IN AEROSPACE - JULY 2019

With 8.2 CGPA at International Institute of Aerospace Engineering Bangalore, under JAIN (Deemed-to-be-University).

PROJECT: Design Analysis of Nose Landing Gear for a typical Jet Transport Aircraft.

❖ BACHELOR OF ENGINEERING IN AERONAUTICAL - July 2017

With an 8.5 CGPA at ACS College of Engineering Bangalore, under Visvesvaraya Technological University-Belgaum.

PROJECT: Flow Analysis of a Supercritical Airfoil Using Circulation Control Wing.

❖ SECONDARY SCHOOL – 2013 with 70.2 CGPA at MS Ramaiah PU

Composite College Bangalore, under Department of Pre-University. Education-Karnataka.

❖ HIGH SCHOOL – 2011 with an Aggregate of 71.3 CGPA at Mitralaya

Girls English High School-Bangalore, under Karnataka Secondary Education Examination Board, Govt of Karnataka.

PROFESSIONAL WORK EXPERIENCE

❖ BELMAR AVIATION LTD – BANGALORE- INDIA [17-07-2019 to Till Date.]

- Working as Junior Engineer on CESSNA-340, CESSNA-188, their engines and aircraft tools, this position involves carrying out the following tasks.
- Maintenance checks covering servicing, modifications, repair, replacement, operation and inspection of aircraft components/items of equipment including Cabin/IFE during major checks under supervision of licensed Maintenance Engineers.
- My experience is confined to CESSNA-340 fitted with TSIO-520NB engines. CESSNA-188 fitted with IO-520AG engine and aircraft tools. (In Mechanical system HA, JE, LA, PE).
- Carry out routine inspections, all scheduled and non-scheduled.
- Troubleshoot mechanical and structural problems and carrying out repair/replacement through dismantling, overhauling, repairing and reassembling of aircraft components as per service bulletins and inspection documents.
- Modify aircraft structures, systems and components following drawings and technical publications.
- Maintain repair log, documenting all aircraft maintenance.
- During this period, I was associated with licensed/approved Aircraft maintenance Engineers to carry out detailed inspection, minor snag rectification and component replacement.

PROJECT DETAILS

❖ **MTech PROJECT. (Design Analysis of Nose Landing Gear for a typical Jet Transport Aircraft).**

- This project deals with analyzing the under-carriage landing gear design used of private jet. Landing gear plays a pivotal role in landing the aircraft safely.
- In this project the total load considered for the loading on the landing gear is **2349kg Dornier 328 Jet**.
- The landing gear design is simulated and analyzed for the safe landing case with different impact loads. The material consider for the landing gear is structural steel.
- Since the project is a research-oriented project, I designed the project and tested on FEM package whether the landing gear is capable of taking the loads of the entire structure.
- The present work involves the design of the landing gear for subsonic transport aircraft whose take-off mass is **15660kg**. Layout design of the landing gear is done considering some design requirements for the given aircraft data.
- The static stress analysis for landing gear was conducted using CAD model of landing gear to study the behavior of stress concentration and stress distribution near the high stress location.
- The transient analysis was conducted to evaluate the dynamic behavior when repeated load cycles acting on the structure and to study the maximum stress and maximum deflection.
- The buckling analysis was conducted to estimate the critical buckling load of the structure and modal analysis to study the dynamic properties of structures under various frequencies.
- Drop test was also conducted for landing gear from which safe landing operation was observed and the graph of deformation versus time has been plotted.

❖ **BE PROJECT (Flow Analysis of Supercritical Airfoil using circulation control wing).**

- This project fulfills the future modification required on the airfoil, at high-lift and low cruise-drag conditions.
- The purpose of this project was to examine the use of circulation control devices (through trailing edge blowing method) to meet high-Lift and low cruise drag conditions.
- The study carried out in two stages:
 - NASA/Langley/Whitecomb LS (1)-0417 (GA(W)-1) is considered.
 - GACC is designed considering GAW-1 as control airfoil with modification.
- The Validation of airfoils was done using commercially available CFD package i.e., FLENT and CFX.
- The result of the various parameters such as Lift, Drag and Moment are extracted for (General Aviation Wing) GAW and GACC (General Aviation Circulation Control Wing.) Airfoil at various Angle of attack (AOA).
- The results of GAW and GACC Airfoils characteristics are compared and respective graphs are plotted.
- In general, the results of the work were to prove that, the modified version GACC has better Aerodynamic characteristics than the existing GAW-1 Airfoil, with respect lift drag and moment at various angle of attack. Stability, control and STOL (Shot takeoff and landing) characteristics for the Airfoils should were studied

SKILLS

- Excellent at performing manual tasks
- Highly Knowledgeable about aspects of aircraft systems.
- Proficient in relevant safety and quality regulations
- Extremely organized and detail-oriented.
- Good oral and written communication skills.
- Attentive to ensuring top quality in completion of all tasks.

OTHER PROJECTS

❖ **Use of Rheoscopic Fluids to Capture Wake Dynamics.**

- I undertook projects related to the field of aerospace and aerodynamics. With the objective of finding the wake dynamics of objects in two cases, I worked on a project on, "**Use of Rheoscopic Fluids to Capture Wake Dynamics**". Using available items and involving less cost, we experimented with two scenarios.
- One in which a cylindrical plate is stationary while the fluid is in motion and the second, where the reverse occurs.
- We concluded that both cases gave the same results. Enthused with the success of this project and to gain more insights into Design software viz. Solid works and XFLR5, and Analysis software i.e., ANSYS workbench

❖ **Analysis of Single and Multi-Element High Lift Airfoil Configuration.**

- I conducted a CFD simulation on different high lift airfoils and chose the one with the most suitable proficiency.
- In this project, I took multi-element airfoils which had multiple flaps and used them to generate high lift with less angle of attack.
- With this project, I gained good practical exposure to the use of various design and analysis software. In order to raise the bar higher and to get better insights into Modelling, Solid works, Matlab, and ANSYS.

❖ **pulse jet engine.**

- I, along with my teammates, undertook a project to develop a "pulse jet engine" to measure the thrust produced in it. We have written a code in Matlab to get data from various sensors and conduct a performance test on the same. Along with a good knowledge of modelling.
- I understood the working principles of the model through simulation. In addition to fostering my interest in Aerospace and Aerodynamics, I got the opportunity to strengthen my foundation through my project work. Moreover, I developed a deep desire to understand the latest technology and trends being employed in the industry.

❖ **Quadcopter.**

- With the intention to gain industrial exposure, I underwent an internship with National Aerospace Laboratories (NAL) in UAV division for a period of six weeks where I got the opportunity to interact and learn from many senior scientists.
- I was assigned a project to build a "Quadcopter" from scratch. Starting from the design board, I worked on the configuration and modeling of its parts using Solid Works.
- I also used ANSYS to analyze the working of the quadcopter.
- The success of this project and the appreciation that I received for it has boosted my confidence to pursue a Master's. Additionally, I have also attended workshops where I have gained more insights into ANSYS and CNC

INTERNSHIPS.

❖ **INTERNSHIP (FLIGHT LABORATORY)**

Completed Certificate Course in Flight Testing exercise conducted at Flight Laboratory, Indian Institute of Technology Kanpur (2018). In this course I have attended the various experiments using airplanes to determine different design and performance parameters. The airplanes used for experiments are CESSNA-206H, PIPER SARATOGA and NAL HANSA. I have passed this course and well familiar with aircraft performance and airplane stability and control courses.

CERTIFICATE COURSES.

❖ CERTIFICATE COURSE IN (SPACE AND ROCKET DYNAMICS).

Completed Certificate course in Space and Rocket Dynamics of 120hrs in the Year 2014 at St.Joseph's College, Bangalore in collaboration with Indian Space Research Organisation- ISRO And Visited ISRO Satellite Centre in Bengaluru and Satish Dhawan Space Centre-ISRO, Sriharikota for Industrial Visit and to carry out my project on Cryogenic Engines

❖ NATIONAL AIRFORCE CADET CORPS

I have done my NCC Training in Airforce for 3 years and secured 'C' Certificate with 'A' grade. The Training included technical aspects which I worked on Dassault rafale, SUKHOI (SU-30MKI), MIKOYAN (MIG-29), Dassault MIRAGE 2000, HAL Tejas. The Indian Airforce has trained me the crew in operating the Indigenous development on DRDO AEW & CS flying on the EMBRAER ERJ 145 Aircraft and also, I was trained on the HAL Dhrove serves primarily as a light utility helicopter in the IAF. In addition to transport and utility roles I was also trained in Newer Dhruve. I also Attended National defence camp in doddabalapur where I learnt technical aspects of aircraft and I have also learnt the weapon training.

CO-/EXTRA CURRICULAR ACTIVITIES.

- Participated in one day workshop on Interpersonal Skills and Working in team Organized by Centre for Innovation and Leadership.
- Participated in one day workshop on Personal Effectiveness Program Organized by Centre for Strategy and International Affairs.
- Participated in National Level Aero-Modelling Workshop held at Jain University Campus Organized by Rotary Club of Bangalore in conjunction with NAL and DRDO in RC Technology.
- Actively participated in blood donation camp organized by Rashtrorothana Blood Bank.
- Participated in Space Day Seminar on Design, Tracking and Control of Satellites at ACS college of Engineering.

PERSONAL DETAILS

Father's Name	RAMAIAH
Mother's Name	S SYAMALAMMA
Date of Birth	13/05/1994
Age	26
Nationality	Indian
Religion	Hindu
Passport	Yes (Validity from 01/03/2017 to 28/02/2027)
Lingual Ability	English, Hindi, Kannada, Telugu. Tamil.
Phone	9731392176/7483058175.

I hereby declare, that all the information furnished above is correct and true to best of my knowledge.

[AISHWARYA LAKSHMI BR]