

## K.YALLA NAGENDRA (VCAE CFD Engineer)

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### ASSISTANT MANAGER - MECHANICAL

Aiming for challenging assignments in Mechanical Design & CAE (R&D, Engineering) with a reputed organisation to deliver solutions for complex requirements.

#### PROFILE SUMMARY

Innovative & results-driven professional, with 4.5 years of experience; focused on achieving results in highly competitive environment that demands continuous improvement.

Presently associated with **Hyundai Motor India Engineering, Hyderabad, as "Assistant Manager"-CAE VCFD Dept.**, part of New Product Development team in India to deliver new products at a global level.

Deft in overseeing performance bottlenecks and taking corrective measures to avoid the same. A keen **planner** with skills in conceptualising as well as effectuating process initiatives to enhance efficiency and productivity. Excellent **analytical**, troubleshooting and **inter-personal skills** with proven ability in new product development during the career span. A good **communicator** with counterpart people and the ability to take **ownership** of work.

#### Notable Accomplishments Across the Tenure Include:

- Achieved the target temperature values (For cabin defrost, Engine cooling etc.) of all the assigned projects related to Full car.
- Collected the performance reports of all the previous vehicles and made a Best comparison report thereby creating a new work process flow on vehicle improvements.
- Actively collaborated with external vendor to automate the above-mentioned vehicle External (Aerodynamics) and internal (Engine cooling, cabin, AC Simulation) comparison reports.
- Received several appreciations for design change suggestions given to the headquarters and implementing.
- Made case studies on different analysis items to improve the impact results during Engine cooling, Pressure drop, Cabin defrost, AC simulation Etc.

#### PROFILE MILE STONES

- Research on EXHAUST WASTE HEAT RECOVERY BY USING THERMO ELECTRIC MATERIALS:  
-By using thermoelectric materials, I did a study on the exhaust waste heat recovery methods. With the help of that we can generate electric power by using seebeck effect.
- Attended different international conferences conducted by different organizations like EXA, ALTAIR etc.
- As a in charge handled global cars for performing full vehicle analysis. Like Engine Cooling, cabins defrost AC simulation Intake Pressure drop analysis. Reduced pressure Drop and achieving target values etc.
- As a thermal professional can be able to analyse the things in the better manner.
- Sound knowledge on Thermodynamics, Fluid Dynamics., Heat transfer, Material Science.
- Cost-down analysis
- Theoretical study on the aerodynamics to improve the aerodynamics performance

#### BUSINESS TRIP TO KOREA

- Time period:7<sup>th</sup> OCT 2018-2<sup>nd</sup> DEC 2018
- Area of work: Worked on the design strategies for product development and conduct tests on the systems to meet the real time situations.
- Counter measures: checking the weak design points and evaluate the flow conditions and redesign to obtain the optimum design criteria.
- Collaboration with cross functional teams and discussing technical issues and finding best design.

#### LEARNINGS FROM FOREIGN TRIP

- Can be able to collaborate with foreign experts regarding technical issues and arrive at the feasible solution.
- Setting test procedures for the different analysis items.
- Possess excellent interpersonal, communication and organizational skills.
- Capable of handling multiple operations and setting process with key focus and can be able to solve issues.
- Optimization of time for the different process, setting up a new method for the process, can be able to reduce the cost and resources for the company.

## ORGANISATIONAL EXPERIENCE

### Since Sep'15: Hyundai Motor India Engineering, Hyderabad as Assistant Manager

**R & R:** Hyundai Motor India Engineering is one of the core business units of Hyundai Motors, which works with all Hyundai business units at different locations of the world. The Hyundai Motor India Engineering focuses mainly on New Product Development of automobiles majorly cars, while creating more value for the customers. As a Research Engineer, my primary responsibility is design and development of automobiles with top quality of project deliverables through formal design and project reviews.

Assistant Manager in New Product Development & Responsibilities:

- Model, Simulate, Analyse, Design and Development.
- Fixing the vehicle as per the standard guidelines so as to match the test conditions
- Boundary conditions Preparation for Different analysis items mentioned above.
- Checking the test criteria & Defining Boundary conditions to correlate with the test results.
- Gain knowledge and improve skills continuously to meet project requirements.
- After simulation check the results with the theoretical calculations.
- Ensure top quality of project deliverables through formal design and project reviews.
- Acquire and update knowledge continuously on latest technological developments.
- Ensure proper communication with internal and external partners in time.
- Checking Materials with their property values
- Checking the test reports and make correlation between simulation and test.
- Root cause analysis and Finding the counter measures.

#### Projects Executed:

**REGULAR PROJECTS:** As an in charge, Handled all type of car segments like sedan, hatchback etc.

#### MODELING EXPERIENCE:

Tool skill set: ANSA,

LEVEL: PROFICIENT,

SKILL: Can handle full car model in ANSA, for different analysis items like aerodynamics, cabin defrost, heat damage, air intake simulation and cooling performance of the car.

#### SIMULATION EXPERIENCE:

Tool skill set: STARCCM+ (proficient), TAITHERM, and POWER FLOW.

LEVEL: PROFICIENT,

SIMULATIONS PERFORMED:

- Cabin defrost :  
Able to perform cabin defrost simulation on the CABIN, Can be able to analyse HVAC PERFORMANCE. Having knowledge on doing improvement cases on the car in order to improve the HVAC PERFORMANCE.
- Heat damage/under hood heat dissipation:  
Able to perform under hood Thermal simulation for the full car, and analyse the exhaust performance. Can be able to give the material suggestion for the designers. And have sound knowledge on the exhaust materials.
- Intake simulation :  
Able to perform intake simulation for the air intake, having ability to analyse the results and give suggestions to the designers.
- Engine cooling of the car:  
Able to perform cooling simulation on the full car, having ability to analyse temperature for the COOLING MODULE and ENGINE PERFORMANCE. Having sound knowledge on doing improvement cases on the COOLING MODULE in order to improve the ENGINE performance.

Supported in completion of over 100+ projects along with 40+ individual Full Vehicle Modelling & analysis with case studies and improvements to reach targeted results.

Some of the individual projects are coded as shown below:

- A13
- QY
- RG3
- SP2i
- RS4
- Su2r
- AH2

## Ongoing Project:

- This project is a face lift of previous Genesis (a luxury brand from Hyundai Motors). Many changes were made in the vehicle from the design point which leads to decrement of target values. So the target is to achieve the target values without change in the proposed design modifications.
- This project is India First KIA vehicle (Seltos) a luxury Brand from KIA, Where Some Engine target temperatures are not satisfied. So I made strong design suggestion for Front Grille so that flow to Engine room to be Maximum.

## SOFTWARE

- Ansa
- Star CCM+
- RADTHERM
- Hypermesh
- Catia (Basic level)
- Power Flow(Basic level)

## EDUCATION

**B.Tech. (Mechanical Engineering)** from Madanapalle institute of technology and science, Madanapalle in 2015 with 80.36%, **Diploma in Mechanical Engineering** from Govt.Polytechnic,Anantapur, Anantapuram in 2012 with 80.92%  
**X** from Govt. High School, Banaganapalle in 2009 with 85.83%.

## PERSONAL DETAILS

Father's Name: K RAMUDU  
Date of Birth : 20<sup>th</sup> June 1994  
Gender : Male  
Languages Known : English, Telugu and Hindi  
Permanent Address : Yanakandla Village,  
Banaganapalle Mandal,  
Kurnool District,  
Andhra Pradesh - 518124

## REFERENCE

