**Adhavan Kathiravan**

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**Objective**

To work in a challenging environment where I can use all my engineering skills to design and develop innovative and eco-friendly products.

**Education**

**B-Tech. Mechanical Engineering,** VIT University, Vellore**, CGPA- 8.53/10** 2018

**Higher Secondary,** Sunbeam MHSS, Vellore, Tamil Nadu, India, **92.9 %** 2014

**SSLC,** Sunbeam MHSS, Vellore, Tamil Nadu, **94.8 %**  2012

**Engineering Experience**

**Course-** Advanced IC Engine Simulations using CONVERGE CFD, Skill Lync (Jan 2018 – Present)

* **Multidimensional Simulation of a 4 stroke Spark Ignited Port Fuel Injected (PFI) Engine using CONVERGE CFD**
* Combustion and emission analysis was carried out using SAGE detailed chemical kinetics solver
* **Sector Simulation of a 4 stroke CAT3410 Diesel Engine to Study The Effect of Bowl Profile on Engine Emissions**
* Two Bowl Profiles (Omega and Open-W Piston) was used to study the emission characteristics.

**Course-** Computational Combustion using Python and Cantera, Skill Lync (April 2018 - Present)

* **Adiabatic Flame Temperature Calculation using Python**
* The effect of equivalence Ratio on a Constant Volume Adiabatic reactor was studied. The effect of number of carbon atoms on flame temperature in a Constant pressure reactor with heat loss.

Course- A Hands on Introduction to Engineering Simulations using ANSYS, EDX (Sep - Dec 2017)

* **Steady State 2D Heat Conduction Simulation using Ansys Workbench**
* The Temperature and Heat Flux Distribution was studied for a given set of Heat Transfer Conditions
* **Finite Element Analysis on a Three Dimensional Bike Crank**
* The Deformed Shape, Displacement Field and Stress Distribution in the Crank was Studied.
* **Laminar Pipe Flow Problem using Ansys Fluent**
* The Velocity and Pressure Contours are Studied in Detail

**Internship**

Automobile Development Internship, Ezenith Education Private Limited Jan 2017

* **A Technical Report was made to Downsize a 1.2 Litre Petrol Engine with High Power-Weight Ratio and Low Engine Friction.**
* **A practical session on Assembly and Dis-assembly of 4 stroke and 2 stroke engines.**

**Publication**

**Numerical Investigations on a Biogas Powered Homogeneous Charge Compression Ignition Engine**, *Adhavan. K, S. Sathishkumar, M. Mohamed Ibrahim, 2018, International Journal of Mechanical Engineering and Technology KEYPOINTS*

**Course Projects**

**Numerical Investigation of Biogas Fuelled HCCI engine,** VIT University, Vellore (Dec-2017- April-2018)

* The effect of equivalence ratio and Intake Charge Temperature for Varying Biogas Compositions using CHEMKIN Single Zone and Multi Zone Thermodynamic Models.
* Closed Cycle Three Dimensional CFD simulation using CONVERGE CFD. The Combustion Stability, Combustion Phasing and Emission Characteristics was studied for Varying Biogas Composition.

**Subjects of Interest**

* Engineering Thermodynamics
* Heat Transfer
* Internal Combustion engines and Hybrid Power-train

**Extra- curricular / Leadership Activities**

* Campus ambassador for a workshop on “Ansys fluent”
* Workshop on Recent Automotive Developments
* Workshop on Reverse Engineering

**Software Packages**

* Modelling: SolidWorks
* Computational Analysis: ANSYS, PYTHON, CHEMKIN, CONVERGE CFD
* Statistical Data Analysis: MS-Excel