**Adhavan Kathiravan**

[https://projects.skill-lync.com/profiles/Adhavan-Kadhiravan-949#](https://projects.skill-lync.com/profiles/Adhavan-Kadhiravan-949)

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**Objective**

Mechanical Engineer seeking full-time opportunities with a special interest in automotive powertrain research and development.

**Education**

**Masters certification program in CFD, SKILL-LYNC** (expected Feb 2020)

**B.Tech. Mechanical Engineering,** VIT University, Vellore, India, GPA- 8.53/10 (May 2018)

**Course Projects**

**Multidimensional Simulation of a 4 stroke Spark Ignited Port Fuel Injected (PFI) Engine using CONVERGE CFD**

* All the physical models and CAD geometry cleanup of the simulation was studied
* The performance characteristics such as Combustion efficiency, Indicated power and Heat release rates were studied in detail

**Sector Simulation of a 4 stroke CAT3410 Diesel Engine to Study the Effect of Bowl Profile on Engine Emissions**

* The CAD geometry and physical models for a 3-dimensional sector simulation of the engine was studied
* The emission and performance characteristics of Omega and Open-W piston used in Diesel engines was studied

**Numerical Investigation of Biogas Fueled HCCI engine**

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

**Simulation of transient behavior of a damped pendulum using MATLAB**

* The ODE45 solver was used to solve the ordinary differential equation of a damped pendulum
* An animation was made for the damped pendulum

**Simulation of 2R Robotic arm using MATLAB**

* A Matlab program was used to simulate the forward kinematics of a 2R robotic arm.
* This simulation gives the workspace of a robot manipulator.

**Simulation of Otto cycle using MATLAB**

* The P-V diagram of Otto cycle was simulated using Matlab
* The effect of compression ratio on thermal efficiency was studied

**Internship**

Automobile Development Internship, Ezenith Education Private Limited (Jan 2017)

* A Technical Report was made to downsize a 1.2 Liter 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 & Presentation**

***Adhavan K****, S. Sathish Kumar, M. Mohamed Ibrahim, “Numerical Investigation on a Biogas powered Homogeneous Charge Compression Ignition Engine”*, IJMET, Volume 9, 7, 2018 (Dec-2017-April-2018)

**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: MATLAB, ANSYS, Python, Chemkin, CONVERGE CFD, GT POWER
* Statistical Data Analysis: MS-Excel