

AMAN KUMAR

<https://projects.skill-lync.com/profiles/Aman-Kumar-449>

Korbaddha, Laguniya Suryakanth, Samastipur, Bihar 848101 | 7060753911 | amanyadav261994@gmail.com

Objective

Mechanical engineer seeking opportunity in the field of CFD for optimizing process and design using Matlab and Converge CFD.

Education

Masters certification program in CFD, Skill-Lync (Nov 18 - Present)

B.Tech. Mechanical Engineering, Shivalik College of Engineering, Dehradun, India, (69%) (June 2018)

Course Project

Simulation on SI8 PFI engine, Skill-Lync (June 2019)

- Performed a full Hydro simulation and observed the change in pressure, velocity, temperature and emission by the engine at every crank angle rotation
- Determined the Compression ratio, Volumetric efficiency and Combustion efficiency of the engine
- Determined Power and Torque by the tool engine performance calculator

Emission characterization on a CAT3410 engine, Skill-Lync (July 2019)

- Performed closed-cycle analysis on CAT3410 Engine using detailed Chemical kinetics solver
- Evaluated two-piston designs: Omega and Open-W

Simulation of a 1D Super-sonic nozzle flow using McCormack Method in MATLAB, Skill-Lync (Feb 2019)

- Wrote MATLAB code to solve 1D governing equations in the conservative and non-conservative form
- Implemented Mac-Cormack method for second-order time accuracy
- Implemented a Courant number-based time step controller

Solving the steady and unsteady 2D Heat conduction problem in MATLAB, Skill-Lync (Jan 2019)

- Computed a code in MATLAB to solve Heat conduction equation using Transient solver and Steady state solver using Iterative techniques (Jacobi, Gauss Seidal and SOR).
- Simulation results indicated the steady state solver is faster than the transient solver because steady state solver does not depend on time.

Parsing NASA thermodynamics data, Skill-Lync (August 2018)

- Computed a code in MATLAB to extract the 14 (7 high and 7 low temperature) co-efficient from the NASA thermodynamics data file.
- Calculated Specific heat, Enthalpy, Entropy and molecular weight for each species available in data file.

Centrifugal pump design and analysis using SolidWorks, Skill-Lync (Sept 2018)

- Created a 3D model of centrifugal pump in SolidWorks and done flow simulation on it
- Checked the changes in the pressure and mass flow rate with different outlet velocity.

Internship

Industrial Training, Speed crafts Limited, Patna (Jan 2017)

- Design, Manufacturing and production of Road Construction and Maintenance Machine
- Manufacturing of the Diesel road Roller, concrete mixing machine, Asphalt batch mix plant, concrete conveyor, Bitumen pressure distributor, etc.

Summer Training, Indian Railway Workshop, Samastipur (June 2017 – July 2017)

- Manufacturing and production of BOX-NHL Wagon
- Learn about production and assembly line work, welding and welding defects, quality check and how the twin brake system work in train

Software Packages

- Modelling: AutoCAD, SolidWorks
- Computational Analysis: CONVERGE, MATLAB, ANSYS
- Statistical Data Analysis: Minitab, MS-Excel