**Gaurav Samanta**

[**https://projects.skill-lync.com/profiles/Gaurav-Samanta-419**](https://projects.skill-lync.com/profiles/Gaurav-Samanta-419)

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**Objective**

Full-time Mechanical Engineering opportunities in CFD domain with special interest in CFD simulation applications

**Education**

**Master’s program in Hybrid Electric Vehicle (HEV), SKILL-LYNC**  (April 19- Present)

**B.Tech. Mechanical Engineering,** Bengal College of Engineering & Technology (BCET), DGPA- 8.45/10 (August 2016)

**Course Projects**

**CAT3410 Diesel Engine Emission Characterization using CONVERGE CFD, Skill-Lync**

* Studied chemical kinetics behind combustion, spray modelling, combustion modelling, and engine performance parameters for a diesel engine
* Based on the study, performed a closed volume emission characterization simulation for a CAT3410 diesel engine for studying the emissions from two different piston bowl profile: open W and omega using a sector model

**No hydrodynamic and Full Hydrodynamic Simulation for a SI8-PFI Engine using CONVERGE CFD, Skill-Lync**

* Performed surface preparation and boundary flagging of a SI8-PFI engine and set up a no hydrodynamic case to observe the piston and valve movements
* Studied combustion modelling, spray modelling and chemical kinetics to set up a full hydro simulation for it. After running the simulation, post processed the results to understand the engine performance in terms of power, torque and combustion efficiency

**Steady state and transient simulation over a throttle body using CONVERGE CFD, Skill-Lync**

* Studied the working of a throttle body and performed a steady state flow simulation to observe the pressure and velocity profile near the throttle body at fully opened and closed position
* Performed a transient flow simulation for the same to observe the pressure and velocity profiles near the throttle body for different angles of throttle opening w.r.t time

**Mixing efficiency in a mixing tee geometry using ANSYS Fluent, Skill-Lync**

* Performed steady state simulation for a mixing tee to understand variation in geometric and inlet conditions
* Conducted a comparative study using two different geometric setup and two different inlet stream temperature to understand the effect on mixing efficiency along with standard deviation in the outlet temperature

**Steady and Unsteady flow over a cylinder using ANSYS Fluent, Skill-Lync**

* Performed steady state flow simulation over a cylinder to observe and verify the Reynold’s number at which the formation of Von Karman Vortex Street/vortex formation is evident
* Performed a transient state flow simulation at the Reynold’s number obtained from steady state simulation to calculate the vortex frequency and Strouhal number at the same

**Industrial Training**

* **Durgapur Steel Thermal Power Plant-** Studied the working and process of the various sub units of power plant
* **Chittaranjan Locomotive Works (CLW)-** Studied the manufacturing & assembling process of electric locomotives in respective workshops
* **Group AutoNext (Tata Motors, Jamshedpur)-**Studied various stages of product development, production and assembling process of passenger and commercial vehicles at TATA motors

**Other Experience**

**Associate Research Analyst – IndustryARC** (Jan 2016 – March 2017)

* Conduct primary and secondary research for data gathering, warehousing and analysis.

**Strategic Consultant**- **IndustryARC** (April 2017- July 2018)

* Perform market estimation, import/export analysis, demand forecast, competitor benchmarking, product benchmarking, technology roadmap, financial analysis, patent and IP analysis for market reports and industry analysis

**Technical Sales Consultant – IndustryARC** (August 2018- Dec 2018)

* Engage in presales client calls to understand client requirements and draft the presales documents

**Senior Strategic Consultant- IndustryARC**  (Jan 2019- July 2019)

* Identify high growth markets and chalk out the market titles for publishing reports
* Perform quality check of reports, presales document, proposals and company website content to increase inbound sales and marketing qualified leads

**Team Lead- IndustryARC** (August 2019- Present)

* Same responsibilities as senior strategic consultant, but manage a team size of 10 members including: 2 senior strategic consultants, 4 strategic consultants and 4 associates/interns

**Major Projects Undertaken at IndustryARC**:

* Category Strategy & Procurement analysis for O&G Industry Equipment &Spares- (August 2019- Present)
* Customer analysis for industrial digitalization in power and water treatment across Western Europe- (October 2018- March 2019)
* Middle East and Africa Industrial Switches and Sensors market assessment with focus on competitor sales channel and marketing strategy (April 2018- June 2019)
* Power Assisted Steering Market for Commercial Vehicles (April 2018- May 2018)
* APAC Electric Power Train market with focus on opportunity assessment across South East Asian Countries

(April 2018- May 2018)

* Global Uninterruptible Power Supply market analysis with focus on Market Entry and Penetration Strategy for lithium ion UPS and Diesel Rotary UPS for industrial applications (August 2017- March 2018)
* Image Sensor Market for Machine Vision applications across various end user verticals (August 2016- October 2016)

**Other Projects**

**Modelling a Solar powered escalator,** BCET (August 2015-July 2016)

* Designed and built a scaled down escalator model which is charged by solar power. Designed the automated control system for the escalator for the auto switch off and on along with load sharing with conventional power during peak hours or unavailability of solar power

**Autonomous Guided vehicle**, BCET (June 2012-August 2012)

* Designed and built a scaled down model of an autonomous line follower robot for warehouse material conveyance application

**Awards and Recognitions**

* Received ‘Reaching Mount Blanc Award’ at IndustryARC for top performance in 2018Q2
* Received ‘Exceeding Everest Award’ at IndustryARC for outstanding performance in FY2018

**Software Packages**

* Modelling: Pro-E/Creo, SolidWorks, CATIA V5, Inventor, NX CAD
* Computational Analysis: ANSYS, MATLAB/Octave, Converge CFD
* Data Analysis and Visualization: MS-Excel, Tableau
* Coding: C++, Java, Python