

**KARTIKEYA ADITYA**

Course: **M.Tech**, Chemical  
 Email: kartikeyaa@iisc.ac.in  
 Mobile: 8218719677  
 CGPA: 8.85

**ACADEMIC DETAILS**

COURSE	INSTITUTE/COLLEGE	BOARD/UNIVERSITY	SCORE	YEAR
B.E. Chemical	BITS Pilani, Pilani Campus	Birla Institute of Technology and Science	8.85 CGPA	2020
Finance Minor	BITS Pilani, Pilani Campus	Birla Institute of Technology and Science	8.8 CGPA	2020
CLASS XII	Adarsh Bal Niketan	CBSE	92.4 %	2016
CLASS X	Adarsh Bal Niketan	CBSE	9.8 CGPA	2014

<b>Subjects / Electives</b>	Petroleum Refining Technology, Chemical Process Technology, Computational Fluid Dynamics, Biochemical Engineering, Process Plant Safety, Financial Engineering, Business Analysis and Valuation, Derivatives and Risk Management, Security Analysis and Portfolio Management, Financial Management, Security Analysis and Portfolio Management
<b>Technical Proficiency</b>	ANSYS, ProMax, Aspen Plus, Python, MATLAB

**SUMMER INTERNSHIP / WORK EXPERIENCE**

<b>Research Intern, Shell</b>	<b>Jan 2020 - June 2020</b>
<b>Topic: Effect of oxygen enrichment on COS/CS<sub>2</sub> production in Sulfur recovery unit</b>	
<ul style="list-style-type: none"> <li>Estimated the effect of Hydrocarbons, CO<sub>2</sub>, H<sub>2</sub>S and CO on COS and CS<sub>2</sub> formation/destruction</li> <li>Sulfur recovery unit is simulated using <b>BRE ProMax</b> by fitting the plant data</li> </ul>	
<b>Intern, Reliance Industries Ltd., Jamnagar Refinery</b>	<b>May 2019 - Jul 2019</b>
<b>Topic: Simulation of Center Feed Device in Delayed Coker using ANSYS</b>	
<ul style="list-style-type: none"> <li>Lesser thermal shock for Center Feed Device as compared to Dual-feed by nearly <b>3 times</b> at the spool-conical joint</li> <li>Even flow distribution of vacuum residue inside coke drum with Center Feed Device</li> </ul>	
<b>Research Intern, CSIR-Indian Institute of Petroleum</b>	<b>May 2018 - Jul 2018</b>
<b>Topic: Efficient oxygen enrichment of air by adsorption</b>	
<ul style="list-style-type: none"> <li>Presented a study report to <b>improve</b> the N<sub>2</sub>/O<sub>2</sub> loading ratio from 1.8 to 5.67 with oxygen purity improvement from 95% to <b>&gt;99%</b></li> <li>Hands-on experience with the Qualitative Gas Analyzer, and Micro-adsorber unit (single-column)</li> </ul>	

**PROJECTS**

<b>CFD analysis of Chest Aortic Aneurysm using ANSYS - Biochemical Engineering</b>	<b>Oct 2019 - Dec 2019</b>
<ul style="list-style-type: none"> <li>Shear stress profile shows that a strong centrifugal action of pulsatile blood flow weakens the chest aortic wall and makes it bulged</li> </ul>	
<b>Rocket nozzle design optimization using CFD simulation on ANSYS - Computational Fluid Dynamics</b>	<b>Apr 2019 - Apr 2019</b>
<ul style="list-style-type: none"> <li>Parabolic geometry gives higher thrust than conical geometry for a fixed divergent angle with 33° being the optimum value</li> </ul>	
<b>Ammonia synthesis loops flow-sheets comparison using ASPEN Plus - Process Design Principles II</b>	<b>Apr 2019 - Apr 2019</b>
<ul style="list-style-type: none"> <li>4 basic Ammonia synthesis loop configurations were simulated and compared in terms of effectiveness and economics</li> </ul>	
<b>Studied 'Bingham Plastics' characteristics by experimenting with a toothpaste - Fluid Mechanics</b>	<b>Nov 2017 - Nov 2017</b>
<ul style="list-style-type: none"> <li>A 5.9 cm water column and 23° angle of inclination gave <b>226 N/m<sup>2</sup></b> of threshold tangential stress</li> </ul>	

**EXAMINATIONS**

Examination	Year	Rank (Score)
<b>General Aptitude Test in Engineering</b>	2020	155 (728)

**COMPETITIONS**

<b>Chem-E-Trades, Extropy 2019</b>	<b>Jan, 2019</b>
<ul style="list-style-type: none"> <li><b>Crude oil distillation</b> was chosen based on economics and set up on paper by purchasing virtual equipment</li> </ul>	
<b>Industry 101, Extropy 2018</b>	<b>Jan, 2018</b>
<ul style="list-style-type: none"> <li>Modification in <b>Reverse Osmosis</b> was made as feed liquid is bypassed to remove ions by applying an electric potential difference</li> </ul>	

**EXTRA CURRICULAR ACTIVITIES**

Sketching, Playing Guitar, Singing, Photography, Story writing
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