

ADITYA IYER RAMESH

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OUTLINE

A Graduate with Majors in Chemical Engineering who is persistent enough of tackling coercive and high-pressure operations. Adept in areas of Nanoscience and Nanoengineering, API, Comp. Fluid Dynamics, Reacting Flows and Turbulence Modelling, I've made myself accustomed to coding platforms which include front-end tools HTML, CSS and back-end tools like Python and MATLAB *et cetera*. Midst my several working stints, the role of Research Intern made me imbibe on leveraging coarse constructive communication and active listening skills to work persuasively with scientists and research scholars of distinct backgrounds and effectuate common research goals. Furthermore, I take delight in creating solutions to complex problems, comprehending vivid engineering principles whilst coordinating with multiple departments and monitoring results to confirm whether the solution has a positive impact, empowering the organization to have a healthy-cum-steady growth. A Music Aficionado in Classical and Western hits, I'm open to any role that would pave a way to tap my full potential for the team, while making the organization to flourish.

EDUCATION

Anna University, Overall GPA - 8.65

Chennai, IN

Bachelor of Technology in Chemical Engineering (First Class With Distinction)

Aug. 2016 – Aug. 2020

EXPERIENCE

Research Intern

Dec. 2019 – Feb. 2020

National Institute of Technology

Tiruchirappalli, IN

- Working as a Research intern at National Institute of Technology on “Bio-fabrication of Silver Nanoclusters from Remains of Micro algal Species” cognized me with key points whilst preparing for a thesis and intrigued the quest for learning.
- Reviewing and working on my thesis predominantly made me conversant with various fields in my major comprehending various eccentric applications involving sophisticated processes relating to the field of Nanoscience and Nanoengineering.
- Also, leveraged highly effective communication and active listening skills to work effectively with scientists and research scholars of diverse backgrounds and accomplish common research goals.

Undergraduate Research Assistant

Dec. 2019 – Sept. 2020

Anna University

Chennai, IN

- Explored various eccentric applications involving sophisticated processes relating to my core area in the field of nanoscience and technology.
- Soon became quite sagacious on the perspective that a quest to invent and cavernous involvement in any subject would be quite an essential aspect for success.
- Disseminated research findings to various personnel in different formats, including white paper records, PowerPoint presentations and spreadsheets depicting comparative information.

Member, Student Staff

Oct. 2018 – Sept. 2020

Indian Institute of Chemical Engineers (Student Chapter)

Chennai, IN

- Amplified cooperation amongst my fellow team members by preparing meeting materials and making myself a resourceful organizer having some brisk and bracing experiences to systematize mundane tasks related to highly coercive operations.
- Interacted with other students professionally by phone, email or in-person to provide information and directed to desired committee members, also solved student-related problems whilst coordinating with other departments as well.

PROJECTS

Bio-fabrication of Silver Nanoclusters Using Residual Biomass of *Sp. Platensis*

Dec. 2019 – Feb. 2020

- Remains of micro-algal species is a very scarce material to use upon in the field of nanotechnology. In our exploration, “Silver” was the prime metal as it possessed a plethora of properties namely Optical, Magnetic and Fluorescent.

- We took the processed remains of *Sp. Platensis*, treated and centrifuged it with chemicals (standard process) and turned it into a cluster of nanoparticles collectively known as Nanoclusters.
- Detection in certain levels of bio-thiols by UV, FT-IR, SEM and TEM Analysis culminated the explored finding, thus paving way for innovation in the combining field of nanoscience and biological sciences.

Bio-Synthesis of Silver Nanoparticles from Pigment Extracted *Sp. Platensis* Jan. 2020 – Feb. 2020

- Pigment named Phycocyanin was extracted from *Spirulina Platensis* (Micro algal species). Extracted pigment was thawed, treated and centrifuged before further proceeding onto the procuring process of silver-based nanoparticles.
- Procured silver-nanoparticles further portrayed great Optical, Magnetic and Fluorescent properties which was aided by analysis of many morphological forms such as SEM, TEM and FT-IR Spectroscopy.
- Anti-oxidant and Anti-microbial studies were carried out on the obtained silver-nanoparticles which confirmed the counter-oxidative and counter-microbial nature and culminated the findings respectively.

Computational Fluid Dynamics based Iterative Solvers May. 2021 – Present

- Solved and Coded 2-D Heat Conduction Eqn, 1-D Quasi Supersonic Flow using Mc-Cormack's method and plotted graphs for different parameters thereby performing a grid dependency test for various solvers/iterations.
- Analyzed and executed codes that solve the linear convection equation for different nodes and a range of time-steps and plotted graphs for the same.
- Using Open-FOAM, simulated cases involving in-viscid flow through a pipe and differentiated symmetry and wedge Boundary Conditions on the famous Analytical Hagen-Poiseuille Equation with different CFD solvers embedded inside the Open-FOAM directory.

SKILLS

SOFTWARE: ASPEN HYSYS, DWSIM, ChemCad, Python (Basics), C/MATLAB, HTML, CSS, TeX, Jamovi, JASP, Minitab, ANSYS.

METHODOLOGIES: Quality Management System (QMS), Lean Six Sigma (Green Belt), PID and PFD Simulations, Equipment Sizing, Plant Layout and Cost Estimation, Layers of Protection Analysis, HAZOP and HAZID Studies, SSW and PSV Line Sizing (Basics), Safety and Risk Operations, Monitoring API for customized products as directed by the manufacturing team.

COURSEWORK: Nanoscience and Nanoengineering, Heat and Mass Transfer, Spectroscopic Methods, Fluid Mechanics, Fluid Dynamics, Process Systems and Instrumentation, Statistical Thermodynamics, Numerical Analysis, Turbulence Modelling, Process Safety and Technical Writing.

MOOCS AND CERTIFICATIONS

- Passed with Distinction and got **Certified Lean Six Sigma Green Belt** by TUV-SUD South Asia.
- Underwent a Two-month Specialization Coursework in collaboration with **University of Colorado at Boulder (USA)** in **Statistical Thermodynamics**.
- Qualified **Cambridge International Assessment (B2)** - Level for Business English (**Vantage**) by **University of Cambridge - London, United Kingdom**.
- Achieved **certifications** from **Mathworks** on **Fundamentals of MATLAB**, **Computational Mathematics**, **Computational Fluid Dynamics** and **Machine Learning** respectively.