Aditya (Iyer) Ramesh

Mail: iadityaramesh777@gmail.com | LinkedIn: linkedin.com/in/rameshaditya | GH: github.com/adityaIyerramesh98

EDUCATION/ACADEMICS

Anna University (Sriram Engineering College) Chennai, IN

*Bachelor of Technology in Chemical Engineering, CGPA: 8.65 (**FCWD**)* *Sept. 2016 – Oct. 2020*

Coursework (Major): Heat and Mass Transfer, Comp. Fluid Dynamics, Statistical Thermodynamics, Numerical Methods and Nanoscience Engineering.

EXPERIENCE

[1] Indian Institute of Technology, Madras *Chennai, IN*

(Project Associate, Thermodynamics and Combustion Engineering Laboratory) *Oct 2021 – Dec 2021*

- Worked on simulating and solving an evaporative multi-phase flow environment in the field of Computational Evaporative Heat Transfer for one of ISRO's multi-stage launch vehicle.
- Troubleshooted and developed C codes in Open-FOAM to support the back-end packages for two-phase flow simulation in booster stage PSLVs.

[2] National Institute of Technology, Tiruchirapalli Trichy, IN

(Undergraduate Research Assistant and Bachelor Thesis, CEESAT) *Dec. 2019 – Sept. 2020*

- Working at the Algal and Biotechnology lab, on two projects. Refer [Research and Projects pt. (1) and (2)] to have a brief idea of my work. Leveraged routinely job scripts, spearheaded my research group on accomplishing daily and monthly tasks and culminated the work into a literature.
- Disseminated my thesis findings to the Dept. Head at my institute in different formats, including white paper records/reports, PowerPoint presentations and spreadsheets depicting comparative information of my project work.

RESEARCH AND PROJECTS

[1] Bio-fabrication of Ag Nanoclusters Using Residual Biomass of *Sp. Platensis* *Dec. 2019 – Sept. 2020*

- We took the processed remains of *Sp. Platensis*, treated and centrifuged it with std. chemicals and turned it into a cluster of Silver-based (Ag) nanoparticles collectively known as "Nanoclusters". Detection in certain levels of bio-thiols by UV, FT-IR, SEM and TEM Spectroscopy culminated the findings.

[2] Bio-Synthesis of Ag Nanoparticles from Pigment Extracted *Sp. Platensis* *Jan. 2020 – March. 2020*

- An Extracted pigment named *Sp. Platensis* was thawed, treated and centrifuged before proceeding onto the procuring process of Silver-based (Ag) nanoparticles. Characterization analyses such as SEM, TEM and FT-IR Spectroscopy affirmed the same.

[3] Computational Fluid Dynamics based Iterative Solvers *May. 2021 – Present*

- Coded (2D) Heat Conduction Equation, 1-D Quasi Supersonic Nozzle Flow using Mc-Cormack's method, linear convection equation for different nodes and time-step ranges and the Channel cavity-flow problem using MATLAB (2D) in MATLAB. Plotted graphs and performed grid dependency tests for various iterations. Pressure, Temp. and Mass Flow rate analysis and plotting were carried out for all the above problems. Currently developing in-house MATLAB solvers for (3D) Higher-interpolation order In-compressible form NSE.

COMPUTING ARSENAL and MOOCs

- **Programming Languages**: C, C++, MATLAB, HTML, FORTRAN (Basics) and Python (Basics) and LaTeX.
- **OS/PACKAGES**: Linux, Ubuntu, CUDA/OpenMP and MPI (Basics).
- Certified as **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)** by **University of Cambridge, (UK)**.
- Achieved **Mathworks certifications** on **Fundamentals of MATLAB**, **Computational Mathematics**, **CFD** and **Machine Learning** respectively.