HARSHIT SAI BALANTRAPU

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OBJECTIVE

I am a Third year B. Tech student in Chemical Engineering at National Institute of Technology Warangal. I am an inquisitive, hard-working and consistent student, and currently seeking internship opportunities in research labs at premier universities.

EDUCATION

National Institute of Technology, Warangal
Bachelor of Technology, Chemical Engineering
August 2018 - present — CGPA: 7.62/10

Urbane Junior College, Hyderabad
Class XII (Senior Secondary Examination), Intermediate board
July 2017 — Aggregate: 94%

Kendriya Vidyalaya ONGC, Rajhamundry
Class X (Secondary Examination), CBSE
July 2015 — CGPA: 9.6/10

TECHNICAL SKILLS

Programming Languages: Python, MATLAB, LaTeX, Scikit-learn

Simulation Softwares: DWSIM, OpenFOAM

PROJECTS and COURSES

• Designed a Viscometer based on the concept of formation of thin film on glass slab and the thickness is calculated is based on the concept of Macroscopic momentum balance and we measured the thickness of film using a instrument named WFT Gauge which is used for checking paint thickness while painting the walls.

• Did a Project on classification where we have to decide to a new patient which drug we should give based on the illness. I had solved this problem using Decision tress algorithm using scikit learn and plotted the decision tree using graphviz.

• Completed courses on Machine Learning and Optimization theory in Coursera.

• Completed a course on Molecular dynamics simulations offered by Purdue University, through edX, and Statstical physics offered by IIT Madras.

• Did a Specialization in Mathematics for Machine Learning offered by Imperial college london through Coursera.

• Completed a Course on Data science with Python and Data visualization in python by Cognitive learning and earned a badge by IBM.

RESEARCH EXPERIENCE

Undergraduate Research Experience

National Institute of Technology Warangal — June 2019 - Present

• Worked in the lab of Dr. J. Ravi Kumar at NIT Warangal to find out emotional recognition of an image and also did the classification using logistic regression. Worked on nature inspired algorithms like genetic algorithm to solve optimization problems. Further, we observed angry emotions on face by capturing an image on raspberry pi board that resulted in 85% of accuracy in detecting emotions on a face.

Indian Institute of Technology Hyderabad — June 2020 - July 2020

• Worked remotely with Dr. PA Lakshmi Narayana on Linear and Non Linear stability analysis of Convective Flow in a porous media(Hydrodynamic stability)

• In this project I had solved a Higher order Coupled Differential equations which came from the literature of Convective Flow in a porous media and applying the concept of perturbation parameters and solved those equations in MATLAB, and got the results for Marginal stability analysis.

Indian Institute of Technology Tirupati July 2020 - August 2020

• Worked remotely with Dr. Nabil on Data analysis of Tennessee Eastman process

• In this project I worked on data interpretation,data pre - processing,data visualization of Tennessee Eastman process dataset where I have plotted time series plots of inputs and outputs of this process to do further analysis.

• In this project I built a model based on Machine learning algorithms especially focusing on Kernel based Gaussian regression,Linear Regression,in MATLAB to observe the variation of process variables with respect to output(Product G) and (Product H).

• Based on the models built for the product G, I got an accuracy of 49% with Gaussian process regression with exponential kernel being used and for the product H, I got an accuracy of 45% with multiple linear regression.

University of Cincinnati, Ohio, USA May 2020 - July 2020

• Worked with Dr. Aashish priyae on Bio - Chemical reactions like Loop mediated isothermal amplification and Polymerase chain reaction, and also tried to write a code in python to identify the possible nummber of DNA Segments when a LAMP reaction is done in order to amplify the DNA.

• Worked with Dr. Aashish priyae remotely on Computational fluid dynamics related to microbiology on a Rayleigh - Bernard convection problem using OpenFoam and analysed the temperature profile, pressure profile of a Convective PCR.

SCHOLASTIC ACHIEVEMENTS

• Among top 1% in JEE Mains examination in 2018 and Cleared the district level National Talent Search Examination in 2015

• Among top 3% in the regional level National Green Olympiad conducted by the Energy and Resources research institute in 2015.

• Participated in the regional level International Maths Olympiad conducted by Homi Bhabha research institute after successfully clearing two rounds in 2015.

• Participated in the Regional Level National Youth Parliament competition conducted by Kendriya Vidyalaya Sangathan in 2014.

• Participated in Azetropy competition conducted by IIT Bombay in 2020.

POSITION OF RESPONSIBILITIES

• Event Manager at Chem-Vision competition at Technozion 2019 at NIT Warangal.

• Vice Captain of co-curricular activities in the year 2014-2015 at Kendriya Vidyalaya.