Yash Gokhale

yashgokhale.github.io

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EDUCATION

Carnegie Mellon University (CMU) — Pittsburgh, PA

Master of Science in Chemical Engineering — Dec 2020

GPA: 3.86/4.0

Relevant Coursework: Energy Storage System Design, Energy Policy & Economics, Supply Chain Optimization, Mathematical Modeling, Data Science for Public Policy

Institute of Chemical Technology (ICT) — Mumbai, India

Bachelor in Chemical Engineering — Jun 2019

GPA: 8.23/10.0

Relevant Coursework: Energy Engineering, Environmental Engineering, Chemical Project Economics, Process Development, Process Control, Industrial Management

Certifications: Electric Power Systems (Coursera), Sustainability Strategies (LinkedIn), Deep Learning Specialization (deeplearning.ai)

SKILLS

Technical: *Proficient:* Python, R, SQL; *Intermediate:* Visual Basic, C++; *Basic:* FORTRAN, BASH, HTML

Software: MATLAB, TABLEAU, COMSOL, ASPEN, HomerPro, ChemCad, GAMS, Pyomo, Minitab

RESEARCH PROJECT

Estimating aerosol concentration in clouds using Machine Learning — CMU, PA

Master's Project | Guide: Dr. Hamish Gordon — Dec 2019-Present

- Creating a Python based framework from scratch for spatial-temporal clustering of atmospheric parameters for data analysis
- Devising a Machine Learning Algorithm to predict the cloud droplet concentration through multiple correlations through hyper parameter tuning techniques
- Developing a cloud microphysics model to measure the aerosol droplet concentration variations with temperature and particle fall speed

PROJECTS

Integrating EV batteries into microgrid to replace peaker plants — Jun 2020-Present

- Developing a feasibility study plan to design stationary energy storage systems to address peak demand using process optimization
- Optimizing battery chemistries and architecture to lower utility costs
- Conducting HAZOP analysis for replacing coal-fired peaker plants with second use EV batteries

Studying impact of COVID-19 on clean energy investments and policies — Jun 2020-Present

CMU COVID-19 Environmental Impact Project Team

- Performing benefit-cost analysis to generate avenues for clean energy funding
- Identifying opportunities to facilitate investments through review of current energy policies
- Leading data analysis of the team to develop an interface for visualizing the trend in emissions and clean energy investments in real time

Global Optimization of Gas Lifting Operations — Jan 2020-May 2020

- Maximized oil production of 200 oil wells with 98% accuracy using MILP solver in GAMS
- Optimized gas requirement curves using piecewise linear functions with supply constraints

PUBLICATIONS

- **Gokhale, Y** (2020), Review of Water Footprint in Bulk Chemical Processes, Indian Journal of Environmental Sciences, Vol 24(2), 2020 [Accepted for publication]
- Mhatre, N; **Gokhale, Y**; Trivedi, V; Sudarshan, V (2018), Perovskites-A Complete Overview, International Journal of Research in Electronics and Communication Engineering

EXPERIENCE

Rosefield Energy Tech. Pvt Ltd. Mumbai, India
Strategy Intern May-Aug 2019

- Analyzed global trends in electric vehicle investments through cost-benefit analysis
- Devised a techno-economic feasibility report for the oil and gas industry for the next decade
- Chalked out outreach strategies for promotion of electric vehicles through brainstorming sessions with the start-up team

Jacobs Engineering Group Inc. Mumbai, India
Consultancy Intern May-Aug 2018

- Collaborated with the consultancy team to analyze the P&IDs for process accuracy and led the procurement of query list for optimum process equipment design
- Developed a Prototype Simulator to estimate cooling water make-up requirement in VBA Macros to lower water loss by 2%

Tide Water Oil Co. Turbhe, India
Plant Intern May -Jun 2017

- Monitored the process equipment conditions and standard operating procedures for the lubricant manufacturing plant
- Analyzed the working of lubricant waste disposal system following written directives
- Assessed the instrumentation working methodology of the quality control division

LEADERSHIP

Social Chair, CheMSA, 2019-20
Elected as the Social Chair for Outreach and Social Initiatives for the Master's association at CMU
CMU Library Student Advisory Council Member, 2020
Worked as the team member for the Student Council to facilitate campus transition post COVID-19 Pandemic
Student Manager, The Chemical Web
Served as the Core Team member for the student startup initiative by organizing internship fairs, seminar sessions and industrial visits to the entire chemical engineering student ecosystem
Overall Event Head, ICT Marathon 2017 & 2018
Led the organization of ICT Marathon in Mumbai with a footfall of 4000 runners which was organized for social causes such as Old Age Rehabilitation and Malnutrition. Managed a team of more than 100 volunteers over the course of two years

PRESENTATIONS

Phillips Health Ideation Hackathon, February 2020
Worked on a multi-disciplinary team to develop a web-based portal compatible with a wearable medical accessory to facilitate health awareness
NCBI Hackathon @ CMU, January 2020
Worked on a team of researchers for developing and extending common data model to represent biological 'omics data for reproducible queries and analyses. Manuscript of the same is in preparation
Covestro International Data Science Hackathon @ CMU, October 2019
Worked on a team to develop an automated machine learning model to detect particle formation quality on metal surfaces
Industry Defined Problem @ Vortex ICT, Mumbai, October 2017
Developed a cost effective method to concentrate solid waste to achieve minimum liquid discharge

AWARDS

- Awarded INSPIRE scholarship for Undergraduate education from Government of Maharashtra, India
- Won Silver Medal for India at Asian Schools Chess Championship 2009