

VENKAT ROY

GRADAUTE RESEARCH ASSISTANT



PhD student currently interested in broadening the understanding of environmental and economic impacts of critical material supply chains and the agricultural sector



Aug 2021 - Present

Graduate Research Assistant, Environmental Eng, Purdue University

Ongoing Projects

- Conducting Environmental impact analysis of lithium extraction from clay-based resources using different techniques
- Regionalizing Life cycle assessment of Lithium extraction from Nevada to understand geographical distribution of impacts like land/water use
- Forecasting Analog years for Corn and Soybean Yield (BASF-Data Mine Project)

Past Projects

- Preliminary Life cycle assessment of Rare earth metal extraction from Seabed Nodules
- Modeled Neodymium Supply Chain from a System Dynamics Perspective
- Compared Tournament vs Random Audit effectiveness on implementing Managed Grazing Schemes as part of an Environmental Policy Analysis Course

Engineer, Research and Development, Indo-MIM Inc

- Performed trials to optimize the production process for 3D printing metal components
- Established protocols for process parameters in printing and other stages to improve part quality
- Collaborated with Machine Manufacturer (Desktop Metal) to resolve printer issues and reduce downtime

Graduate Student Researcher, Mechanical Eng, UC San Diego

- Created short-term solar forecasting algorithm to predict onset of cloud-based ramp events in a 1 km radius
- Identified potential sites for geothermal development based on resource data, cost and policy considerations



- Life Cycle Assessment
- System Dynamics Modeling
- Data Analysis in Python
- Environmental Policy Analysis
- Production Engineering
- Energy Systems Analysis
- Time Series Analysis



- **Teamwork:** Worked with 2 - 9 person groups on 6 collaborative projects
- **Presentation:** 4 Conference presentations (oral and posters), Recorded Video Summary for BASF- Data Mine Project
- **Leadership & Time Management:** Responsible for running a 3D printing operation line from powder to finished part
- **Problem-solving & Creativity :** Undertook and contributed to several novel research projects

July 2020- July 2021

Sept 2017- Dec 2020



B.Tech Mechanical Engg

IIT Madras
2012- 2016

MS Mechanical Engg

UC San Diego
2017- 2019

PhD Environmental Engg

Purdue University
2021- Present



- English
- Telugu
- Hindi
- Tamil



- Soccer
- Weight Training
- Biochemistry
- Pool



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