

VARDHAN KORIPALLY

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EDUCATION

The University of Texas at Austin	Bachelor of Science, Chemical Engineering Tracks: Energy Technologies, Process Systems and Product Engineering Certificate: Computational Engineering GPA: 3.86/4.00	May 2025
Technical University of Denmark	Semester Abroad	Fall 2022
Relevant Coursework	Transport Phenomena, Transport Processes, Energy Storage and Conversion, Elements of Data Science, Numerical Methods	

EXPERIENCE

Electric Power Research Institute – Rotational Student Intern		Summer 2023 – Present
<ul style="list-style-type: none">• Evaluated the energy savings of smart thermostats through reviewing 10 academic papers and reports• Consulted with various power companies to research the viability of a new power distribution technology• Analyzed US Electricity Information Administration residential survey to validate EPRI survey results• Developed heating equipment classification algorithm for 30,000 homes based on training dataset• Designed a tool to sort 50,000 residential survey photos by filtered criteria		
Webber Energy Group – Undergraduate Research Assistant		Spring 2023 – Present
<ul style="list-style-type: none">• Developed a Python script to pull and compile energy load profiles of the US energy grid• Mapped power rating between electricity transmission lines to develop an accurate model of the energy grid• Merged 50 geospatial data files to input into renewable energy performance model• Utilized supercomputer to compute hourly solar and wind energy performance profiles for 2024• Investigating the possibility of interconnecting Eastern US and Texas power grids to increase energy security		
Cancer Drug Delivery Lab – Undergraduate Research Assistant		Summer 2022
<ul style="list-style-type: none">• Experimented with different chemicals and methods to administer chemotherapy drug more effectively• Performed three characteristic tests for encapsulation efficacy on 60-80 Paclitaxel samples per week		
Rayon Fiber Lab – Undergraduate Research Assistant		Spring 2022
<ul style="list-style-type: none">• Prepared cellulose solutions from recycled biomaterials using industrial mixer• Operated wet spinning machine to spin and dry 10 strips of fiber per week from cellulose solutions• Experimented with different thread counts and roller speeds and analyzed its effect on the fiber strength		

ACADEMIC PROJECTS

Analysis of Texas Power Grid – Elements of Data Science		2023
<ul style="list-style-type: none">• Conducted an analysis of the Energy Reliability Council of Texas (ERCOT) based on energy security and carbon footprint• Hypothesized the best methods to increase reliability and reduce carbon intensity through data analysis• Created eight figures to visualize generation and demand fluctuations and carbon intensity throughout the year		
District Heating Modeling – Energy Storage and Conversion		2022
<ul style="list-style-type: none">• Calculated the cost per megawatt-hour of heat produced from three different sources in a district heating grid in a year• Evaluated the savings of installing a thermal energy storage over a 20-year lifecycle by calculating levelized cost• Determined the dimensions, heat loss, and utilization frequency of the thermal energy storage from given conditions• Performed a parametric investigation with varying natural gas prices to evaluate effect on cost of running the grid		

HONORS

John and Virginia Gidley Endowed Scholarship – Merit-based scholarship recipient	2023
Leaton Thomas Oliver Scholarship – Merit-based scholarship recipient	2022

SKILLS

Computer Skills: Python (Pandas, Geopandas), Excel VBA, ArcGIS Pro, R, Bash, COMSOL, MATLAB, and Maple