Selma Sharaf, Associate

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics, Inc., Cambridge, MA. *Associate*, April 2025 – Present; *Research Associate II*, April – August 2023; *Research Associate I*, July 2022 – April 2023

- Consults on energy-sector issues, including resource planning, wholesale markets, and storage
- Conducts capacity expansion and production cost power sector modeling using EnCompass
- Prepares testimony for utility regulatory proceedings on behalf of consumer and environmental advocates

Stanford Energy Control Lab, Stanford, CA. *Graduate Research Assistant*, Aug 2024 – Jan 2025

- Led interviews with ISOs/RTOs and utility-scale storage owners to draw insights about state-of-charge management
- Translated multi-stakeholder research into reports and presentations, communicating key findings for enhancing storage operations to Bits & Watts industry members

California Independent System Operator (CAISO), Folsom, CA. *Shultz Fellow in Market Analysis and Forecasting*, June – Aug 2024

- Developed a simplified offline market clearing model in R using a linear programming optimization framework to support policy and market design
- Synthesized and analyzed data to initiate development of a predictive model for estimating utilization factors of ancillary service awards, aiming to improve storage state-of-energy calculation

ADL Ventures, Cambridge, MA. *Clean Energy Intern*, Sep 2021 – May 2022

- Consulted on decarbonization and clean energy infrastructure deployment projects for electricity industry stakeholders
- Facilitated successful launch of Essence grid monitoring platform serving electric co-ops

Sustainable Energy Advantage, LLC., Framingham, MA. *Research Associate Intern*, June – Aug 2021

- Performed data-driven modeling and research to assist with renewable energy market analysis in the US Northeast

Bennett College, Greensboro, NC. *Climate Action Plan Research Intern*, Jan – June 2021

- Created college's first-ever climate action plan through stakeholder engagement and data analysis

Atmospheric Chemistry and Composition Modeling Group, MIT, Cambridge, MA. *Undergraduate Student Researcher*, Jan 2019 – Jan 2021

- Performed statistical analysis on meteorology dataset to study geographic and temporal trends in US heat waves
- Modeled impacts of trends on surface ozone concentrations to provide process-level insight into these interactions
- Presented poster at the 2020 AGU Fall Meeting titled, "A historical analysis of heat waves over the continental US and their impact on regional air quality (Selma Sharaf, Sidhant J. Pai, Colette L. Heald)"

Resilient Infrastructure Networks Lab, MIT, Cambridge, MA. *Undergraduate Student Researcher*, June – Aug 2020

- Analyzed Planet Labs imagery to assess COVID-19 lockdown impacts on key US supply chain corridors
- Built classification neural network to identify discriminative regions of satellite images before/after lockdowns

City of Strasbourg/Eurometropolis, Strasbourg, France. *Summer Sustainability Intern*, June – July 2019

- Developed sustainability strategy for the City's role in the 2024 Paris Olympics
- Delivered recommendations for improving sports facilities based on LEED standards

EDUCATION

Stanford University, Stanford, CA
Master of Science in Atmosphere & Energy, 2024

Massachusetts Institute of Technology, Cambridge, MA
Bachelor of Science in Environmental Engineering, minor in Management, 2022

PUBLICATIONS

Frost, J., P. Knight, S. Sharaf, L. Metz, S. Kwok. 2023. *RGGI's Economic Benefits for Pennsylvania: Exploring the benefits of the Regional Greenhouse Gas Initiative.* Synapse Energy Economics for Evergreen Collaborative.

SKILLS

R, Python, Julia, MATLAB, Vensim, SimaPro, Microsoft Office Suite

Resume updated April 2025