

MIT Energy Initiative, Massachusetts Institute of Technology
77 Massachusetts Avenue, Room E19-307, Cambridge, MA 02139

Education

Ph.D. Candidate, Chemical Engineering September 2020-Present
Massachusetts Institute of Technology **GPA:** 4.8/5.0
Deferred admission to the Sloan School of Management MBA Program.

Bachelor of Science, Chemical Engineering *in Honors*, **Minor:** Chemistry May 2020
Virginia Polytechnic Institute and State University **GPA:** 4.0/4.0

Select Professional & Academic Experience

MIT Energy Initiative, advised by Prof. Bob Armstrong and Emre Gençer January 2021-Present
Thesis: Modeling and Optimization of Vehicle-to-Grid (V2G) Services in an Evolving Power Sector [\[Google Scholar\]](#)

- Developing high-resolution regional power system dispatch models to quantify cost savings, blackout mitigation, and novel revenue streams enabled by bidirectional EV charging technology.
- Investigating new tariff designs for commercial EV fleet charging, emissions reduction, and V2G participation
- Registered co-inventor of the Sustainable Energy System Analysis Modelling Environment (SESAME), for system-scale energy and emissions analysis [\[sesame.mit.edu\]](#).

Graduate Technical Consulting (full-time) August-December 2021
4 to 8-week engagements facilitated by MIT

- Schlumberger New Energy Ventures:** Novel Lithium Extraction Technology Scoping
- Via Separations:** New Applications Technology Scoping
- Saint-Gobain Research North America:** Process development for CertainTeed & SEFPRO Business Lines

University of Cape Town, Energy Research Center May-June 2018
Virginia Tech Honors College Class of 1954 Odyssey Fellowship

- Wrote a proposal and was awarded a fully funded fellowship (\$10,000) to study the energy policy and infrastructure of underdeveloped South African communities.
- Investigated the outcomes of off-grid solar panel training and maintenance programs.

Select Leadership & Co-Curricular Experience

Vice President of External Relations, MIT Energy and Climate Club May 2022-Present

- Co-founded club consulting practice to pair undergraduate students with companies working in the energy transition. Successfully piloted two projects (~10 students) in the Spring 2023 semester.
- Energy Conference Leadership: 2023 Conference Deputy Operations Director, 2022 Conference Panel Director
- Responsible for sourcing and securing new club connections, from startups to corporations, as well as managing relationships with club advisory board, other universities, and the broader Boston energy/climate ecosystem.

Member, MIT Department of Chemical Engineering Graduate Student Advisory Board Spring 2021-Present

- Nominated and elected by peers to advise department faculty on matters related to the academic and professional growth of our graduate students.
- Led data processing and analysis for the biannual student Quality of Life survey.

President, Virginia Tech American Institute of Chemical Engineers August 2016-May 2020

- Elected by peers to lead a professional development organization that sponsors a career forum, industry plant tours, company information sessions, and mentorship to 210+ members.
- Recognized for leading an *Outstanding Student Chapter* (awarded to 30 of 337 student chapters globally)

Personal Information

Honors & Awards: Virginia Tech College of Engineering Outstanding Senior, Barry M. Goldwater Scholarship, Astronaut Scholarship, Phi Kappa Phi Medallion Award, AIChE Topp Othmer Scholarship

Hobbies & Interests: Skiing, Beach volleyball, Beer brewing, Philadelphia sports