

Mahmoud Ramadan

Patent Agent I

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Mahmoud Ramadan is a patent engineer in the firm's Electronics Practice. He brings a passion for science and technology policy. His practice focuses on providing crucial support to clients throughout the patent application process.

While earning his master's, Mahmoud was a research assistant conducting thermochemical and electrochemical research on lithium-based batteries' explosive behavior and conducting a techno-economic assessment and forecasting of sodium-ion batteries manufacturing and scalability for their potential use in energy storage. At MIT, Mahmoud was Congressional Visit Days Chair of *MIT Science Policy Initiative* and Chief Executive Officer of *MIT Science Policy Review*.

Mahmoud has experience in Python and using Atomic Simulation Environment (ASE) module, scikit-learn, PyTorch; MATLAB; Cantera; Engineering Equation Solver (EES); R; and CHEMCAD. He also has a good understanding of STAR-CCM+.

Awards and Recognition

- National Science Foundation Graduate Research Fellowship Program Honorable Mention (2021)
- Massachusetts Institute of Technology Vice Chancellor's Excellence Fellowship (2020)
- Barry M. Goldwater Scholar (2019)
- Tau Beta Pi Scholar (2019)
- Future Leaders in Chemical Engineering Award (North Carolina State University, 2020)
- Outstanding Senior Award (2020); Keith Russ Award for Outstanding Junior (2019); Outstanding Sophomore Award (2018) (Ohio University Department of Chemical and Biomolecular Engineering)

Affiliations

- Tau Beta Pi Engineering Honor Society
- Sigma Xi Scientific Research Honor Society

Community Involvement

- Barry Goldwater Scholarship and Excellence in Education, Diversity and Inclusion Council (Fall 2020 – Spring 2021) – Mentored students at HBCUs
- MIT Mechanical Engineering Research Exhibition (MERE) (Fall 2021) – Poster judge
- MIT Summer Research Program (MSRP) (Winter 2021) – Application review committee member

Presentations and Publications

- Author, “A comparison of American and Chinese policies for electric vehicle technologies,” *MIT Science Policy Review*, 3, 11-16 (2022)
- Co-Author, “Analysis of Hydrogen Production Costs across the United States and over the next 30 years,” *arXiv Statistics Applications arXiv*, 2206.10689 (2022)
- Co-Author, “A perspective on equity in the transition to electric vehicles,” *MIT Science Policy Review*, 2, 46-54 (2021)
- Co-Author, “Mitigating microbiologically influenced corrosion of an oilfield biofilm consortium on carbon steel in enriched hydro test fluid using 2,2-dibromo-3-nitrilopropionamide (DBNPA) enhanced by a 14-mer peptide,” *Journal of Materials Science & Technology*, 57, 146-152 (2020)
- Co-Author, “Rapid Prediction of Bimetallic Mixing Behavior at the Nanoscale,” *ACS Nano* 14(7), 8171–8180 (2020)

Languages

- Arabic (Fluent)

Practice Areas

- [Electronics](#)

Education

- Massachusetts Institute of Technology (M.S., 2023)
 - Technology and Policy
- Massachusetts Institute of Technology (M.S., 2022)
 - Mechanical Engineering
- Ohio University (B.S., 2020, summa cum laude)
 - Graduated first in class
 - Chemical Engineering, Minors in Chemistry and Math