Muhammad Talal Khalid

405 West Park Street, Apt# 8 , Urbana, Illinois, 61801
+1 217-848-4373 | mkhalid4@illinois.edu | https://talalkhalid93.github.io/

Professional Interests

Electric Utility Planning and Policy (Socio-techno-economic Analysis), Electricity Rates and Regulation, Community-centric Transportation Electrification, Power System Engineering, Electricity Markets.

Education

University of Illinois Urbana Champaign *Urbana, USA*
Doctorate in Electrical and Computer Engineering *Jan. 2021 - present*
- Concentration: Power and Energy Systems
- Advisors: Prof. Ann-Perry Witmer and Prof. Kiruba Haran
- CGPA: 3.96/4.00
- Thesis: Developing a Contextual Engineering Framework for Electric Utility Decision Making.

University of Technology Sydney *Sydney, Australia*
Masters in Engineering & Masters in Engineering Management *Jan. 2017 - Jan. 2019*
- Concentration: Energy Planning and Policy
- Advisors: Prof. Suwin Sandu and Prof. Deepak Sharma
- CGPA: 3.63/4.00
- Thesis: Regulatory Frameworks to Ensure Supply Reliability in Australia.

NED University of Engineering and Technology *Karachi, Pakistan*
Bachelors in Engineering *Jan. 2012 - Dec. 2015*
- Concentration: Mechanical Engineering
- Advisor: Prof. Syed Ahmed Raza
- CGPA: 3.47/4.00
- Thesis: Solar Parabolic Trough Collector Design for a Textile Industry in Pakistan.

Professional Experience

University of Illinois Urbana Champaign *Champaign, USA*
Research Assistant *Jan. 2021 - Present*
Advisors: Ann-Perry Witmer and Kiruba Haran

Electric Power Engineers *Champaign, USA*
Power Systems Engineer 1 (Electrification) *Aug. 2023 - Aug. 2024*
Manager: Sarah Chatterjee

Electric Power Engineers *Champaign, USA*
Power Systems Engineering Intern (Electrification) *May - Aug. 2022, 2023*
Manager: Sarah Chatterjee

Energy Lab Australia *Sydney, Australia*
Intern *Jul. - Oct. 2017*
Manager: James Tilbury

Schneider Electric Pakistan *Karachi, Pakistan*
Mechanical Design Engineer *Mar. - Dec. 2016*
Manager: Tayyab Habib

Publications

M. T. Khalid, P. Teckchandani, and A. P. Witmer, "Alternatives to Non-Coincident Maximum Demand Charges for Electric Vehicle Fast-Charging in the United States," Under review, The Electricity Journal.

M. T. Khalid, M. V. Benito, A. Rzonca, and A. P. Witmer, " An Introduction to "Alternative Fuel Grades" for Electric Vehicle Fast-Charging," Under review, Journal of Cleaner Production.

M. T. Khalid and A. P. Witmer, "Prompt Engineering for Large Language Model-assisted Inductive Thematic Analysis," Under Review, Social Science Computer Review.

M. T. Khalid, L. Appiah, and A. P. Witmer, " Contextual Inquiry: Seven Guideposts of Understanding Community Context," Proceedings of Engineering Education for Sustainable Development, 2025.

M. T. Khalid and A. P. Witmer, "The Importance of Community's Context to Societal Electric Vehicle Adoption Modelling," Proceeding of the International Annual Conference and 46th Annual Meeting American Society for Engineering Management, 2025.

M. T. Khalid, A. P. Witmer, and P. Sauer, " Managed charging Solution to Mitigate Adverse Impact of the Maximum Demand Payment Component of a Commercial Electric Vehicle Fast-charging Facility's Electricity Bill," CIGRE Grid of the Future Symposium, 2022.

M. Yang, S. Sandu, W. Li, and **M. T. Khalid**, "Renewable Energy in Australia: A Wider Policy Discourse," Chinese Journal of Population, Resources, and Environment, 2019.

Talks

M. T. Khalid and A. P. Witmer, "A Contextual Engineering Approach to Electric Utility Decision-making," Poster: IEEE Energy and Policy Forum, 2025.

M. V. Bentio and **M. T. Khalid**, "Managed Charging Solution for Electric Vehicle Fast-charging," Undergraduate Poster: Power and Energy Conference at Illinois, 2025.

M. T. Khalid, "Application of Contextual Decision-making Framework to the Problem of Maximum Demand Charges in Paducah, KY," Oral Presentation: ECE 590 I, University of Illinois Urbana Champaign, Fall '24.

M. T. Khalid, "Alternatives to Maximum-demand Charges for Electric Vehicle Charging: A Historical Perspective," Oral Presentation: ECE 590 I, University of Illinois Urbana Champaign, Spring '24.

M. T. Khalid, "Contextual Evaluation of the Maximum Demand Payment Component of Electricity Bill for Electric Vehicle Charging," Oral Presentation: ECE 590 I, University of Illinois Urbana Champaign, Fall '23.

M. T. Khalid, A. P. Witmer and K. Haran, "The Importance of Context in Societal Electric Vehicle Adoption," Oral Presentation: Behavior Environment and Climate Change Conference, 2023.

A. Rzonca and **M. T. Khalid**, "Managed Charging to Mitigate Energy Demand at Electric Vehicle Fast-charging Facilities," Undergraduate Poster: Power and Energy Conference at Illinois, 2023.

J. Altenberg and **M. T. Khalid**, "Contextual Engineering Application to Advance Transportation Electrification," Undergraduate Poster: Power and Energy Conference at Illinois, 2023.

M. T. Khalid, "Managed Charging Solution to Mitigate Adverse Impact of the Maximum Demand Payment Component of a Commercial Electric Vehicle Fast-charging Facility's Electricity Bill," Oral Presentation: ECE 590 I, University of Illinois Urbana Champaign, Fall '22.

M. T. Khalid, A. P. Witmer, and P. Sauer, "Advancing Deeper Penetration of Electric Vehicle Fast-charging Facilities in Communities: A Contextual Approach," Oral Presentation: Behavior Environment and Climate Change Conference, 2022.

Awards, Fellowships, & Grants

2024	**University of Illinois Urbana Champaign Research Park Most Outstanding Graduate Intern Award**	*Finalist*
	Mavis Future Faculty Fellowship	*Recipient*
	Tadao Murata Graduate Fellowship in Electrical and Computer Engineering	*Recipient*
	University of Illinois Urbana Champaign Dissertation Travel Grant	*Recipient*
	Behavior, Environment, and Climate Change Conference Fellowship	*Recipient*

2023	**University of Illinois Urbana Champaign Research Park Most Outstanding Graduate Intern Award**	*Recipient*
2019	**University of Technology Sydney Dean's Academic Merit Award**	*Recipient*

Teaching Experience

Spring '22	**ECE 206: Electric and Electronic Circuits Laboratory** Teaching Assistant	*UIUC*
Spring '21	**ECE 307: Techniques for Engineering Decisions** Teaching Assistant	*UIUC*
Fall '21	**ECE 333: Green Electric Energy** Teaching Assistant	*UIUC*

Mentoring

2025	**Nihal Parthasarathy,** Department of Electrical and Computer Engineering	*UIUC*
2025	**Winston Kim,** Department of Environmental Engineering	*UIUC*
2024-2025	**Marisol Benito,** Department of Physics	*UIUC*
2023-2024	**Pranshu Teckchandani,** Department of Electrical and Computer Engineering	*UIUC*
2022-2023	**Jessica Altenberg,** Department of Mechanical Science and Engineering	*UIUC*
2022-2023	**Ariette Kaberlien,** Department of Aerospace Engineering	*UIUC*
2022-2023	**Arin Rzonca,** Department of Computer Science	*UIUC*

Outreach & Professional Development

Service and Outreach

2022-2024 **Power and Energy Conference at Illinois** Committee Member

Peer Review

Renewable and Sustainable Energy Reviews
Power and Energy Conference at Illinois

Software Skills

Python, MaxQDA, QpenADR 2.0, CYME, MS Excel, R, E-views