Mohamed Abuella

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Scholar: Mohamed Abuella

Cover Letter

July 03, 2026

Dear Sir/Madam,

I am Mohamed Abuella, who received a B.Tech from the College of Industrial Technology, Misurata, Libya, an M.Sc. degree in Electrical and Computer Engineering from Southern Illinois University Carbondale in 2012, and a Ph.D. degree in Electrical Engineering from the University of North Carolina at Charlotte in 2018.

I recently worked as a Research Fellow at Northumbria University, Department of Mathematics, Physics, and Engineering, where I support the delivery of the "Hydrogen Integration for Accelerated Energy Transitions (HI-ACT)" research project. In this role, I have gained valuable expertise in Hydrogen Integration, Energy Transition & Sustainability, and Research Methodologies & Project Supervision. See project details in HI-ACT project.

Previously, I worked as a Postdoctoral Researcher at the Center for Applied Intelligent Systems Research (CAISR) at Halmstad University, where I was actively involved in AI for Sustainability by applying Machine Learning techniques. My research focused on developing AI-driven models and algorithms to enhance sustainable practices in various sectors. See project details in iHelm project.

During my Ph.D. studies, I delved into Energy Markets and Energy Analytics, examining their economic and technical aspects. Additionally, I applied statistical and predictive analytics to address the variability challenges associated with variable renewable energy (VRE) resources. My research aimed to develop an approach that leverages situational awareness tools for optimal trading and integration of these VRE resources. For my M.Sc. thesis, I focused on optimization applications for electric power systems, specifically on economic dispatch and optimal power flow, with a special emphasis on systems incorporating wind energy resources. During my undergraduate program, I extensively studied NEPLAN, a software for electric power systems design and analysis. I also utilized MATLAB to simulate power flow calculations and fault analysis of power systems. Further details are available in my graduate research work.

I have a strong passion for working in a diverse environment and conducting interdisciplinary research. My expertise lies in the economic planning and technical operation of electrical power systems. Throughout my academic journey, I have gained valuable experience in various aspects of this field.

I am writing to express my keen interest in the open position and my desire to collaborate and work with the experts in this field. My diverse background in AI for Sustainability, Energy Transition, and Power Systems makes me a strong candidate for the role.

Please find attached my application package for your reference at your convenience. If you have any questions, please do not hesitate to contact me. For further details on my research activities and projects, please see my online profile in mohamedabuella.github.io/cv.

Thank you for your time and consideration.

Yours sincerely,

Mohamed Abuella