

Emmanuel CHUKWUEMEKA, EIT

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EDUCATION & CERTIFICATIONS

Master of Science in Mechanical Engineering <i>University of North Dakota (UND), Grand Forks, ND.</i>	Dec. 2021
Bachelor of Science in Mechanical Engineering <i>University of Ibadan (UI), Ibadan.</i>	Feb. 2018
Engineer In-Training (EIT) Certification Minnesota Board of AELSLAGID	Nov. 2021

CORE COMPETENCIES

- **Adv. Skills & Tools:** Computational Fluid Dynamics, Aerodynamic Simulations, 3D Mapping technologies / **Tools:** ANSYS Fluent, QT Modeler, MATLAB Simulink, INVENTOR, Bash Scripting, CFX, AutoCAD
- **Data Visualization & Analysis Tools:** Tecplot, Python, MATLAB, SQL

RELEVANT EXPERIENCE

Research Scientist **Jan 2022 – Present**
Research Institute for Autonomous System (RIAS), UND, ND

- Led our team on providing an independent assessment of a new radar technology for a company.
- Contributed to scholarly outputs (Journal articles, manuscripts etc.)
- Involved in the design and execution of research tasks including performing simulations and analysis related to autonomous systems and their applications.
- Data gathering and processing of challenging data formats from remote sensors utilized on a cold-region research project.
- Developed a robust algorithm for ingesting several output data of unmanned aircraft platforms.

Graduate Research/Teaching Assistant **Jan 2020 – Dec 2021**
University of North Dakota (UND), Grand Forks, ND

- Investigated forces and acceleration of body undergoing air-sea transition using tools such as ANSYS Fluent, INVENTOR to simulate and analyze results.
- Contributed to the timely setting up of a large linear turbine cascade test section.
- Collaborated with a team of six on the experimental acquisition of an end-wall heat distribution in the linear turbine cascade.
- Assisted in the on-going construction of a wind tunnel test section at DRACOLA facility, achieving 80% of the project's plan for the 2020 and 2021 summer periods.
- Developed a technical report on propeller performance using CFD techniques that was helpful to the concerned organization in advancing to the next stage of a government sponsored competition.
- Contributed to the success of the UND engineering team that made it to the second phase of the American-Made Geothermal Manufacturing Prize.

Facility Engineer – Intern **Sept 2016 – Feb 2017**
Chevron Nigeria Limited

- Effectively managed the logistics of materials going onshore while providing proper documentation.
- Enhanced the operation of Engineering services by providing work permits and PPE to contractors.
- Worked independently and as a team in the maintenance and repairs of machines.

PUBLICATIONS

Yel Mahi, M, **Chukwuemeka, E**, Donovan, S, Ames, F, Kanani, Y, & Acharya, S. "The Influence of Turbulence and Reynolds Number on Endwall Heat Transfer in a Vane Cascade." *Proceedings of the ASME Turbo Expo 2022: Turbomachinery Technical Conference and Exposition*. Rotterdam, Netherlands. June 13–17, 2022. V06BT13A022. ASME. <https://doi.org/10.1115/GT2022-83477>

Mahi, M. Y., **Chukwuemeka, E.**, Donovan, S., Ames, F., Kanani, Y., and Acharya, S. (February 10, 2023). "The Influence of Turbulence and Reynolds Number on Endwall Heat Transfer in a Vane Cascade." *ASME. J. Turbomach.* July 2023; 145(7): 071012. <https://doi.org/10.1115/1.4056778>

Chukwuemeka, E.C., Ames, F., Kazeem, R.A. *et al.* Numerical investigation of forces and acceleration for air-sea unmanned aerial vehicle in transition. *Int J Interact Des Manuf* (2023). <https://doi.org/10.1007/s12008-023-01345-1>

Timothy Pasch, **Emmanuel Chukwuemeka,** & Jordan Krueger. (2023). High Resolution LiDAR data covering road networks in Nome, Alaska - Site1. Defense Resiliency Platform Against Extreme Cold Weather. <https://drp.dataone.org/view/doi:10.57902/D74W2T>

Ahajjam, A., Putkonen, J., **Chukwuemeka, E.,** Chance, R., & Pasch, T. J. (2024). Predictive Analytics of Air Temperature in Alaskan Permafrost Terrain Leveraging Two-Level Signal Decomposition and Deep Learning. *Forecasting*, 6(1), 55-80. <https://doi.org/10.3390/forecast6010004>

LEADERSHIP AND ACTIVITIES

Professional Member American Society of Mechanical Engineers	Mar 2023 – Present
Member Association for Uncrewed Vehicle Systems International	Mar 2023 – Present
Volunteer Math Tutor Step Up Tutoring, CA, USA.	
Outreach Coordinator <i>Road Safety Club, Offa, Nigeria</i> <ul style="list-style-type: none">Led a team of about 20 on various outreach in sensitizing the public on good road use.Acted as the liaison officer between the Club and the Road Safety Corps.	Sept 2018 – Mar 2019

HONORS/AWARDS

Tuition waiver and Assistantship <i>Department of Mechanical Engineering UND, ND, USA.</i>	Jan 2020 – Dec 2021
Academic Excellence <i>Dr. D.K Olukoya - MFM Worldwide</i>	Aug 2019
Master's Scholarship <i>University of Ibadan, Nigeria</i>	April 2019
Certificate of National Service <i>National Youth Service Corps, Nigeria</i>	April 2019
Recognition of Service to God and Humanity <i>Nigeria Christian Corper Fellowship, Nigeria</i>	Feb 2019
Dean's Roll of Honor <i>Faculty of Technology, UI, Nigeria</i>	Apr 2018
Recognition of Service as the Academic Lead <i>MFMCF-UI, UI, Nigeria</i>	Feb 2018
Most Outstanding Student <i>MFMCF-UI, UI, Nigeria</i>	Dec 2015
PTDF Scholarship (Undergraduate) <i>Petroleum Trust Development Fund, Nigeria</i>	Mar 2015
SPDC Scholarship <i>Shell Petroleum Company-Joint Venture, Nigeria</i>	May 2014