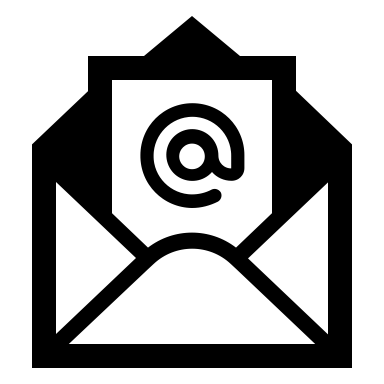
**Edison Chukwuemeka**

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**Professional Summary**

Dynamic engineer with expertise in computational fluid dynamics (CFD), heat transfer, and engineering simulation tools, particularly Ansys Fluent, Ansys Workbench, Ansys Mechanical, Ansys Forte, and SpaceClaim. Skilled in solving complex engineering problems using numerical modeling, AI-based simulation platforms, and Python scripting. Proven track record in customer-facing roles, providing technical support, training, and innovative solutions to drive customer success. Published researcher with a deep commitment to continuous learning and leveraging simulation to solve real-world challenges.

**Education**

**Ph.D. in Mechanical Engineering** – Louisiana State University, Baton Rouge, LA *(Aug 2021)*

**M.Sc. in Applied Mathematics** – Louisiana State University, Baton Rouge, LA *(May 2021)*

**B.Sc. in Mechanical Engineering** – University of Lagos, Lagos, Nigeria *(Oct 2008)*

**Skills**

* Computational Fluid Dynamics (CFD)
* Heat Transfer & Thermodynamics
* Ansys Software Suite: Fluent, Mechanical, Forte, SpaceClaim, Workbench
* Python Programming and AI Integration
* Data Analysis & Visualization: Python, MATLAB, SQL
* Cloud Computing: Azure Cloud, Google Cloud, IBM Watson
* AI & Machine Learning Programming
* Fluid-Structure Interaction
* 2D/3D CAD & Finite Element Analysis
* Problem-Solving & Process Optimization
* Customer Support & Training
* Project Management & Collaboration
* Programming and Version Control: C++, Java, Git, Linux

**Professional Experience**

**Process Development Engineer**

*Intel Corporation – Hillsboro, OR* *(Jan 2022 – Present)*

* Led defect reduction projects using simulation-driven insights, reducing process excursions by implementing innovative tool monitoring systems.
* Improved silicon surface topography by 10% through process optimization.
* Designed and Implemented Python-based data visualization tools to enhance team responsiveness to statistical process deviations.

**Software Development Engineer - Intern**

*Ansys Inc. – San Diego, CA* *(May 2020 – Aug 2020)*

* Improved fluid-structure interaction (FSI) models, achieving 10% accuracy compared to experimental data.
* Created scroll compressor designs in Ansys SpaceClaim for testing and validation of FSI models.
* Developed multi-domain simulation workflows integrating heat transfer and fluid dynamics, presented at SAE WCX 2021.

**Software Development Engineer - Intern**

*Ansys Inc, Fluid Dynamics, San-Diego, CA. (May 2019 – Aug 2019)*

* Carried out a detailed review of available literature on conjugate heat transfer models, thereby providing critical information needed to improve the coupling model used in the conjugate heat transfer analysis of an internal combustion engine in Ansys Forte.
* Validated the conjugate heat transfer model created by integrating Ansys Forte, Ansys Fluent, and Ansys System Coupling within 10% of experimental data of a spark-ignition internal combustion engine.

**Graduate Research Assistant**

*Louisiana State University – Baton Rouge, LA* *(Jan 2015 – May 2021)*

* Conducted CFD simulations in Ansys Fluent and Maxwell, reducing combustion pollutants by 10%.
* Developed numerical models to analyze heat transfer phenomena in complex systems, publishing findings in peer-reviewed journals.
* Visualized experimental data with Python libraries, identifying actionable insights for fluid mechanics’ research.

**Wireline Field Engineer**

*Schlumberger – Nigeria* *(Apr 2011 – Oct 2014)*

* Delivered client-focused solutions during high-stakes operations, ensuring service quality and operational success.
* Mentored a team of 5, improving technical skills and operational efficiency.
* Scheduled and performed preventative maintenance on critical equipment, minimizing downtime.

**Certifications**

* Machine Learning – Coursera
* Python for Data Science – Coursera
* Cloud Computing Fundamentals – Coursera
* Data Structure and Algorithm - Coursera
* C++ programming – Coursera
* Google Data Analyst and Machine Learning - Coursera

**Leadership and Extracurricular Activities**

* President – LSU Mechanical Engineering Graduate Student Association (2018)
* Co-Chair – LSU Annual Mechanical Engineering Conference (2019, 2015)
* Member – American Society of Mechanical Engineers (ASME), Society of Automotive Engineers (SAE), National Society of Black Engineers (NSBE)

**Publications**

1. Chukwuemeka, E., Litrico, G., Puduppakkam, K., Garratt, T. et al., "An Automated Workflow for Efficient Conjugate Heat Transfer Analysis of a Diesel Engine," SAE Technical Paper 2021-01-0402, 2021, <https://doi.org/10.4271/2021-01-0402>.
2. Edison E. Chukwuemeka, Ingmar M. Schoegl, “Numerical Simulation of the Effect of Magnetic Fields on Soot Formation in Laminar Non-Premixed Flames,” Proceedings of ASME Power 2021 Conference, <https://doi.org/10.1115/POWER2021-64859>.
3. Edison E. Chukwuemeka, Shawn Walker, “Accelerated Gradient Descent Methods for the Uniaxially Constrained Landau-de Gennes Model,” Advances in Applied Mathematics and Mechanics, DOI: [10.4208/aamm.OA-2021-0075](https://doi.org/10.4208/aamm.OA-2021-0075).