AJIFOWOWE IYANU MICHEAL

Curriculum Vitae

18, Gungdong-ro 72beon-gil, Yuseong-gu, 34138, Daejeon, South Korea

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Research Interests

- Sustainable Built Environment
- Occupant Comfort
- Building Energy
- Indoor Air Quality
- HVAC Systems
- Reinforcement Learning

Education

M.Sc. in Civil and Environmental Engineering *Feb. 2025*
Korea Advanced Institute of Science and Technology (KAIST), South Korea

- **Thesis:** Optimizing Indoor Environmental Systems Control for Maximizing Human Comfort and Energy Efficiency Based on Reinforcement Learning
- Advisor: Professor Seongju Chang

B.Eng. in Mechanical Engineering *Dec. 2019*
Federal University of Technology, Akure (FUTA), Nigeria

- **Thesis:** Development of an Expert System for Aircraft Failure Causes, Predictions, and Remedies
- Advisor: Professor Akinnuli

Research Experience

Graduate Research Assistant *Feb. 2023 – Feb. 2025*
Korea Advanced Institute of Science and Technology (KAIST), South Korea
Supervisor: Professor Seongju Chang

- Optimization of thermal comfort, indoor air quality, and energy efficiency in smart built environments.
- Performed computational fluid dynamics (CFD) analysis for indoor air quality control.
- Developed reinforcement learning models for intelligent building energy optimization.

Employment

Graduate Researcher *March 2025 – Present*
Department of Civil and Environmental Engineering, KAIST, South Korea

- Conducting research on control and modeling of indoor ventilation systems using reinforcement learning.
- Performing building energy analysis using CFD (STAR-CCM+) and EnergyPlus software.

Technical Operator *Aug. 2021 – Feb. 2023*
Rite Foods Limited, Maintenance Department

- Operated and maintained Husky injection molding machines and auxiliary equipment.
- Ensured efficient production of plastic preforms for bottling and packaging.

Graduate Intern *Mar. 2020 – Feb. 2021*
Ministry of Works and Transport, Mechanical Department

- Assisted in the design of mechanical, electrical, and HVAC systems using AutoCAD.
- Contributed to technical reviews and development of building plans.

Awards and Honors

KAIST Graduate Scholarship Award *Feb. 2023 – Feb. 2025*
Korea Advanced Institute of Science and Technology (KAIST)

Dream Foundation Scholarship Award *Feb. 2024*
Insulation Korea Dream Foundation

Teaching Experience

CE560 – Smart and Green Environmental Design (Teaching Assistant) *Feb. 2024 – May 2024*
Under the supervision of Professor Seongju Chang, KAIST

- Instructed students in lab sessions under the supervision of the course instructor.
- Administered and evaluated homework, lab reports, and exams.
- Provided support for grading term papers and final reports.

Publications

Journal Publications

- **Ajifowowe, I.**, Chang, H., Lee, C.S., Chang, S. (2024). "Prospects and Challenges of Reinforcement Learning-Based HVAC Control." *Journal of Building Engineering*. DOI: 10.1016/j.jobe.2024.111080.
- Abiola, A., Fasasi, S., **Ajifowowe, I.**, Adeyemo, A. (2024). "Development of an Electric Furnace Using Bentonite and Kaolin Sodium Silicate as Refractory Material." *International Journal of Mechanical Engineering and Technology (JMET)*, 8(1), pp. 1–10.
- Fasasi, S.T., **Ajifowowe, I.**, Adeyemo, A., Ajayi, A. (2024). "Development of an Expert System for Aircraft Failures: Causes, Predictions, and Remedies." *International Journal of Aerospace Engineering (IJASE)*, 2(1), pp. 12–20.

Languages

English: Native language; distinguished proficiency in listening, speaking, reading, and writing.
Korean: Intermediate proficiency in listening, speaking, reading, and writing.

Professional Skills

Skills: Python, Machine Learning, Reinforcement Learning, STAR-CCM+, DesignBuilder, EnergyPlus

Professional Affiliations

Member: Nigerian Environmental Society (NES) *2022 – Present*

References

References available upon request.