

CHRISTOPHER KOLADE ALEGBELEYE

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Versatile professional with a multidisciplinary background in Civil Engineering, specializing in infrastructure resilience, data science, and disaster risk modeling. Experienced in leveraging analytical tools, geospatial technologies, and machine learning to evaluate infrastructure vulnerabilities and inform data-driven decision-making. Dedicated to advancing optimized, sustainable, and resilient solutions in the built environment.

EDUCATION

University of Delaware, Newark, DE, USA *Aug 2023 – May 2027*
PhD. Civil Engineering (Civil Infrastructure Systems)- (3.93/4.00)
Key Courses: Risk modelling, GIS, Data Science, Optimization, Machine Learning, Computer Vision.

Poznan University of Technology, Poland *Feb 2021 – Sept 2022*
MSc. Civil Engineering (Construction Engineering and Management)- (4.83/5.00)

Federal University of Technology Akure, Nigeria *Nov 2012 – Dec 2017*
Bachelor of Technology (BTech) in Building Engineering; (4.74/5.00)

RESEARCH EXPERIENCE

Research Assistant, [CHEER HUB](#), University of Delaware *Aug 2023 - Present*

- Developed computational models for the NSF-funded Coastal Hazards Hub, creating risk models to predict hurricane damage and financial losses using Machine Learning (ML), GIS, and statistical methods.
- Advanced the development and maintenance of a detailed geospatial inventory of over 5 million residential structures by integrating python, GIS, and ML – data fusion of AI-powered satellite imagery, Google Street View, and open-source datasets (e.g., parcel data, American Community Surveys, tax records).
- Conducted image labeling of street view images and Convolutional Neural Network (CNN) classification to support large-scale disaster risk modeling.
- Managed robust software development workflows using PyCharm, GitHub, and VS Code for collaborative model iteration and development.
- Collaborating with interdisciplinary teams to achieve research goals and advance innovative solutions.

Hackathon Researcher, NSF NHERI DesignSafe, Texas Advanced Computing Center *July 2024*

- Designed ML models to predict wind loads on low-rise buildings using wind tunnel data.
- Processed data via web APIs and deep learning techniques to simulate extreme weather pressure patterns.

Independent Researcher, Analyzing Connecticut Real Estate Sales and Market Dynamics *Aug 2023 – May 2024*

- Applied machine learning and statistical tools to assess real estate sales trends and value assessment gaps.
- Informed policy discussions on housing affordability using predictive models.

Graduate Research, Poznan University of Technology, Poland *Feb 2021 – Sept 2022*

- Conducted study on Energy Efficient Building with Integrated hybrid renewable energy system and garage for electric cars.
- Performed Simulated solar building energy performance using DesignPH and SketchUp.
- Optimized energy usage across design scenarios using standardized EU energy models.

Undergraduate Research, Federal university of Technology, Akure *2016 - 2017*

- Conducted energy audits on 40 buildings using blower door methods and HVAC analysis.
- Analyzed user energy requirements and applied HVAC principles to design average cooling loads based on spatial dimensions.
- Investigated factors influencing the adoption of energy-saving solutions and identified opportunities for efficiency improvements within the study area.

SKILLS

- **Programming:** Python, R, SQL, SAS.
- **ML & Libraries:** Scikit-learn, TensorFlow, Keras, PyTorch, Pandas, NumPy, OpenCV, SAP.
- **Data & Viz:** Power BI, Excel (Advanced), Jupyter, ARC GIS, QGIS.
- **Cloud & Dev:** AWS, Google Colab, DesignSafe, Databricks, Git/GitHub, VS Code, PyCharm.
- **Engineering:** MS Project, SAP S/4HANA, Robot Structure, Abaqus, AutoCAD, Revit, Sketch Up, Orion.
- **Quant Methods:** Regression, Classification, CNNs, Deep Learning, Clustering, Monte Carlo & LHS Simulations, Risk Modeling, Forecasting & Time-Series Analysis, Model Evaluation.

PROFESSIONAL EXPERIENCE

Supply Chain Planning Specialist; [Procter & Gamble](#), Warsaw, Poland.

Aug 2022 – Aug 2023

- Managed critical planning and financial oversight for operations valued at over \$20 million, covering 440+ product codes, delivering predictive demand and supply forecasts based on market data analysis to ensure continuity of supply.
- Executed risk assessments across the supply chain, resolving complex operational constraints by modeling trade-offs between cost, inventory, and service levels.
- Improved forecast accuracy by 10% and maintained 98%+ service levels by leveraging SAP S/4HANA, Power BI, and advanced Excel tools (Pivot Tables, VBA) for predictive forecasting, inventory optimization, and data-driven risk planning in a high-volume manufacturing environment
- Reduced Non-Productive Inventory (NPIs) by 15% using SAP S/4HANA, excel, and Power BI dashboards that tracked inventory, consumption, and deliveries in real time, automating risk alerts via Power Automate.
- Contributed to system-level improvement projects focusing on data integrity and automation within the planning workflow, demonstrating expertise in applying technology to increase operational efficiency.

Finance Operations Specialist; [Franklin Templeton Investments](#), Poznan, Poland

Aug 2021 – July 2022

Finance Operations Specialist; [Fidelity Information Services](#), Poland (Merger)

Mar 2022 – July 2022

- Processed and analyzed high-volume financial transactions, including wealth transfers, interest accruals, and share computations using Excel VBA and financial systems to automate reconciliation, enhance accuracy (99%+), and ensure compliance with U.S. regulatory standards.
- Conducted systematic risk and compliance reviews that flagged discrepancies and reduced exposure to fraud and reporting errors by 20%, supporting audit readiness and data integrity across large investment portfolios.
- Enhanced operational efficiency during a post-merger system migration, leveraging automation and data-driven process improvements to reduce turnaround time by 30% and strengthen regulatory reporting workflows.

Business Communication Instructor, [Świat języków obcych Da Gama](#), Poznań, Poland. *(Part time)*

Apr 2021 – Mar 2022

- Designed and delivered specialized curricula for adult learners, focusing on advanced business English to enhance professional verbal fluency and technical vocabulary.
- Cultivated effective communication and public speaking confidence through structured, interactive instructional activities, demonstrating the ability to convey complex topics clearly to diverse professional groups.
- Managed student assessment and pedagogical evaluation, ensuring learning objectives were met, which showcases strong planning and results-oriented instruction skills.

Construction Engineer & Manager, [Carrillion Ltd](#), Lagos, Nigeria. (Full time)
(Intern)

Dec 2017 – Nov 2020

Apr 2016 – Dec 2016

- Managed the delivery of a high-value, large-scale waterfront luxury apartment project (valued at ₦2B+), overseeing all planning, coordination, and rigorous quality control for the project.
- Contributed to pre-site construction design validation by performing risk simulations comparing projected sea-level rise data against geotechnical findings to determine the base minimum foundation level required for long-term structural resilience.
- Directed a workforce of 50+ staff and subcontractors, ensuring efficient resource utilization and strict adherence to project timelines and budget.
- Interpreted complex architectural designs, produced technical documentation, budgets, and financial reports, and served as the primary liaison between construction, finance, and engineering teams.

PUBLICATIONS

- Elliott, J. H., Dyck, S., Reed, A., Alegbeleye, C. K., DeYoung, S. E., & Khan, N. A. (2025). Renter policies and rights in the context of disasters in the United States: A critical review. *International Journal of Disaster Risk Reduction*, 127, 105641. <https://doi.org/10.1016/j.ijdrr.2025.105641>.
- Alegbeleye, C. K., Nwaogu, J. M., Ifeoluwa, A., Adelerin, T., Damilola, A. J. (2024). Evaluation of Building Energy Use in Southwestern Nigeria. *International Journal of Sustainable and Green Energy*, 13(1), 8-18. <https://doi.org/10.11648/j.ijrse.20241301.12>.
- I. Awontunde, P. O Akanni, J. Adetooto, T. Adelerin, C. Alegbeleye, "Assessment of suitability of molten plastic and sawdust mixture for the production of light weight composite building materials"; Nelson Mandela University Department of Construction Management 50th Anniversary Conference 'The Next 50 Years', 2021, Pg 187-194, ISBN: 978-1-928472-51-3.
- T. Adelerin, P. O Akanni, J. Adetooto, I. Awontunde, C. Alegbeleye "Assessment of competence of Nigeria indigenous contactors in handling large scale construction projects" Nelson Mandela University Department of Construction Management 50th Anniversary Conference 'The Next 50 Years', 2021, Pg 195-204, ISBN: 978-1-928472-51-3.

CONFERENCE PRESENTATIONS

- Hurricane loss modeling for mobile and manufactured homes, Oral Presentation, Society for Risk Analysis (SRA) Annual Meeting, Washington, D.C. (December 2025).
- Panelist, Sustainable Energy and UN SDG 7: Leadership in Resilience, Delmarva Power Global Challenge Conference, Delaware State University (April 2025).
- Towards Developing a Comprehensive Aerodynamic Database for Low-Rise Buildings Using CFD: Validation Against Wind Tunnel Data", NHERI Computational Symposium, NSF SimCenter, (February 2025).
- Predicting Hurricane Damage and Losses Using Risk Modeling Techniques, BRIGHT Workshop, National Center for Atmospheric Research, Boulder, CO (August 2024).
- Predicting Hurricane Damage and Loss to Mobile and Manufactured Homes, Natural Hazards Research Summit, College Park, MD (May 2024).
- Predicting Hurricane Damage and Loss to Mobile and Manufactured Homes, Disaster Research Center 60th Anniversary Workshop, Newark, DE (May 2024).

AWARDS & HONORS

- Bill Anderson Fund (BAF) Fellow: *The William Averette Anderson Fund* (Oct 2025 – Present)
- Society for Risk Analysis (SRA) Student Merit; Student Travel Award (2025 Annual Meeting, Washington, D.C.) (2025)
- Travel Award, BRIGHT Workshop "Exploring Coastal Flood Risk Through Geospatial Storytelling", National Center for Atmospheric Research, Boulder, CO (2024)
- NSF NHERI SIMCENTER Travel Award, NHERI Computational Academy, Texas Advanced Computing Center, UT Austin (2024)
- Best Poster Award, Natural Hazards Research Summit, College Park, MD (2024)
- NSF NHERI Early Career Local Participation Award, Natural Hazards Research Summit, College Park, MD (2024)
- Ignacy Łukasiewicz Scholarship Program, National Agency for Academic Exchange (NAWA), Poland (2020–2022)
- Dean List Award Placement; 5 sessions in School of Environmental Technology, Federal University of Technology, Akure (2012-2017)
- Recipient of overall best graduating student in Building Department and School of Environmental Technology; Federal University of Technology, Akure. (2016/2017)
- Recipient of Gold medalist in Chess; School of Environmental technology, Federal University of Technology Akure. (2015&2016)

MEMBERSHIPS & AFFILIATIONS

- ASCE (American Society of Civil Engineers) — Member
- Sigma Xi, The Scientific Research Honor Society — Member
- STEER (Structural Extreme Events Reconnaissance) Network — Member
- NHERI (Natural Hazards Engineering Research Infrastructure) Student Council — Member
- IAEM (International Association of Emergency Managers) — Member
- NIOB (Nigerian Institute of Building) — Member

TRAINING & CERTIFICATIONS

Elsevier Researcher Academy Certified Peer Reviewer – Elsevier Editorial System	<i>Jul 2025</i>
University of Silesia , Katowice, Poland. Polish language, culture and history. (A1 level- Bardzo Dobry; 5.0/5.0)	<i>Oct 2020 – Feb 2021</i>
British Project Management Academy , Novelle, Lagos, Nigeria Project Management & Total Quality Management Training	<i>Apr – Jul, 2019</i>
British International Safety Organization , Novelle, Lagos, Nigeria Workplace Health & Safety, Risk Assessment, EIA, Basic First Aid	<i>Apr – July, 2018</i>

LEADERSHIP EXPERIENCE

President, African Graduate Students Organization, University of Delaware (2024 – Present)
First Year Students Representative, African Graduate Students Organization, University of Delaware (2023 – 2024)
Financial Secretary, NAWA Ignacy Scholars, Poznan University of Tech., Poland (2021 -2022)
Financial Secretary and Treasurer, Department of Building Class 17 graduating set. (2012-2018)
Chief Whip: National Association of Building Students (2014/2015)

LANGUAGES & HOBBIES

Languages: English (Fluent), Polish (Basic) | **Hobbies:** Chess, Guitar, Art, Travel, Movies, Research