PETER AKINDE

SENIOR CLIMATE-TECH SOFTWARE ENGINEER

CONTACT INFORMATION

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https://github.com/peteviz

SKILLS

- TypeScript & JavaScript (ES6+) Python, Java
- AI-Assisted Development (Claude code, Copilot, Cursor)
- Context and Prompt engineering
- CI//CD (Git, AWS, Docker)
- Urban Building Energy Modelling, Life Cycle Assessments

LANGUAGES

- Deutsch |Intermediate
- English | Native

SUMMARY

Innovative Software Engineer with over 7 years of combined experience in full-stack development, 3D visualization, and workflow automation. Expert in TypeScript, React.js, and Babylon.js, with a proven record of optimizing frontend performance and architecting scalable state management systems. Brings a unique competitive advantage in the PropTech and ClimateTech sectors, leveraging deep domain knowledge in Urban Energy Modelling to translate complex analytical requirements into robust, high-performance software solutions.

EXPERIENCE

SOFTWARE ENGINEER & SUSTAINABILITY EXPERT

Urbanistic GmbH. Munich Bavaria | Dec 2023 - Present

- Architected a scalable global state management system using Redux and Context API, significantly reducing data-fetching errors and decoupling complex UI logic from data layers to improve maintainability.
- Led a comprehensive codebase refactor and performance overhaul; implemented lazy loading, code splitting, and tree shaking, which drastically improved Lighthouse scores and reduced initial load times for data-heavy applications.
- Engineered interactive 3D simulation tools using Babylon.js, enabling real- time object manipulation and automated building simulations that reduced user workflow time and increased project evaluation accuracy.
- Built dynamic, real-time analytics dashboards using Recharts.js to render complex energy metrics, translating raw backend data into actionable user insights.
- Optimized the data ingestion layer by integrating RESTful APIs with client- side normalization, ensuring efficient handling of large-scale JSON payloads for energy metrics and minimizing network latency.
- Utilized Vibe Coding methodologies to rapidly iterate on complex 3D UI components and functionalities in Babylon.js, reducing the "idea-to-prototype" phase by 30%.
- Led R&D team for Urban Building Energy Modelling (UBEM) and Life Cycle Assessment (LCA) solutions at city and national scale, developing scalable, data-driven tools for automated energy demand forecasting, embodied/operational carbon accounting, and decarbonization scenario analysis.

3D AUTOMATION DEVELOPER

Fiverr. | Jun 2016 - Oct 2022

- Developed custom Ruby scripts within SketchUp to automate repetitive interior design workflows, successfully reducing average project turnaround time by 15%.
- Delivered programmatic design solutions that integrated complex daylight and energy simulation parameters into architectural projects
- Conducted energy efficiency assessments with simulation tools, leading to a 20% improvement in project sustainability outcomes.

EDUCATION

M.ENG HEALTHY AND SUSTAINABLE BUILDINGS

Technische Hochschule Deggendorf. DEU | Mar 2022 - May 2025

- Master's Thesis: Automating Carbon Risk Assessment of Residential Buildings Using Scalable Energy and Emissions Data in City Information Models
- Graduating Grade: 1.9 (*German scale*)

B.TECH BUILDING TECHNOLOGY

Federal University of Technology Akure. | Jan 2014 - Dec 2019

- Bachelor Thesis: Assessment of BIM Adoption Among Construction Firms in Lagos State
- Final CGPA: 1,5 *(German scale)*

PROJECTS

Skill Sync

- Developed a full-stack platform using React.js and Node.js facilitating skills acquisition through peer to peer project collaboration.
- Engineered the recruiter interface to filter candidates based on verified skills and metric-based achievement

AI Abbreviator extractor.

- Developed an AI-powered tool using Generative AI workflows to extract and expand abbreviations, demonstrating expertise in prompt engineering and agentic data processing.

CERTIFICATIONS & COURSES

Introducing Generative AI with AWS - Oct 2024

Data Structures & Algorithms. (Coursera)- Certificate Course -2024

CSRD Fundamentals (CSRD Institute) - Sept 2025

PUBLICATIONS

Automating Carbon Risk Assessment of Residential Buildings using Scalable Energy and Emissions Data in City Information Models TechRxiv (preprint)

- Authors: Peter Akinde (Lead Author)
- Link: https://doi.org/10.36227/techrxiv.1377171
- Developed an automated framework for carbon risk assessment that integrates scalable energy data into City Information Models (CIMs).
- Leveraged TABULA building archetypes and power-law scaling to extrapolate energy demand from minimal inputs (building geometry, heating systems).
- Achieved high predictive accuracy with a Normalized Mean Bias Error (NMBE) of <5%, meeting ASHRAE Guideline 14 standards.
- Implemented EU ETS price trajectory modeling to quantify financial risk and "stranded asset" potential for urban planners.