

Thandolwethu (Shakes) Dlamini

DATA & AI ENGINEER

📍 Durham, NC | ✉ shakestzd@gmail.com | 🌐 shakestzd | 🌐 shakestzd

EXPERIENCE

Senior Data Analyst - Revenue Management | SunStrong Management LLC | Remote Aug 2025 - Sep 2025

- Ensured zero disruption to \$250M+ in federal tax credit qualifications by leading data systems migration through corporate acquisition of Sunnova Energy's 200K+ solar asset portfolio
- Delivered quarterly ITC certifications and IRS compliance filings for institutional partners managing \$1B+ in renewable energy investments
- Adapted proprietary Energy Community analysis system to evolving IRS Notice 2025-31 requirements, maintaining 97.3% accuracy rate across multi-state regulatory compliance

Senior Data Analyst - Finance | Sunnova Energy | Remote Jun 2024 - Jul 2025

- Architected Python-based geospatial analytics system that unlocked \$250M in additional Investment Tax Credits by analyzing 200K+ solar assets across 29 states
- Built enterprise data infrastructure for 500K+ solar asset portfolio through 7 automated ETL pipelines (Python, DLT, DuckDB, Dagster) with 99.9% reliability
- Enabled \$50M in incremental tax credits by collaborating with Legal, Tax, Pricing and Government Relations teams to translate IRS regulatory updates into automated business logic

Data Analyst - Financial Operations | Sunnova Energy | Remote Nov 2022 - Jun 2024

- Recovered \$95M in dealer-related revenue through automated data pipelines using Python and Tableau: \$91M in accounts receivables via integrated dashboards, \$4M through credit note reconciliation
- Reduced accounts payable processing time by 75% by consolidating 4 separate reports into unified PostgreSQL database architecture with one-click automation
- Generated \$1M in interest revenue over 9 months by implementing automated SQL/Tableau pipelines that identified 3,000 non-compliant systems (\$51M value)

SELECTED PROJECTS

AI Systematic Review Pipeline — LangGraph multi-agent pipeline achieving 99.3% recall on 6,673 clinical papers 2024–Present at \$1.16/review. Co-authored with Johns Hopkins. In peer review at *PRS*.

wipnote — Graph database and multi-agent coordination framework using HTML as a knowledge representation 2024–Present layer. Published on PyPI.

InkBrief — Executive-ready PDF briefing generator. React 19 visual editor with BlockNote, Typst WASM compiler, 2025–Present Python CLI, PocketBase.

TiltHQ — Political media analytics in Elixir/Phoenix. OTP supervision, Oban background jobs, LiveView dashboard 2025–Present with bias scoring.

Skhiya — Desktop environment manager (Rust/Tauri + React). Manages .env files, SSH keys, and shell configs 2025–Present across projects.

EDUCATION

S.M. in Technology and Policy | Massachusetts Institute of Technology | Cambridge, MA Sept 20 - Sept 22

Thesis: GEOS-Chem atmospheric transport modeling and top-down inversion to constrain mercury emissions from artisanal and small-scale gold mining (ASGM); Peru's Madre de Dios region case study, informing Minamata Convention policy

B.S. in Mechanical Engineering & Minor in German | Duke University | Durham, NC Aug 15 - May 20

Graduated with Departmental Distinction | Mastercard Foundation Scholar | Davis United World Scholar

TECHNICAL SKILLS

Programming	Python, SQL, Elixir, JavaScript, HTML/CSS, HTMX
Data Tools	Excel (Advanced), Tableau, Power BI, PostgreSQL, Power Query, Pandas, GeoPandas
Data Infrastructure	ETL Development, Dagster, DLT Hub, DuckDB, Snowflake, Phoenix/LiveView, Oban, Git/GitHub, API Development

