Daniel Wilkinson

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Languages: English (native), German (C1), French (B2)
Gitub: Daniel-Wilkinson1

Profile

Environmental engineer and data analyst specializing in life cycle assessment (LCA), environmental performance evaluation, and data-driven sustainability strategies. Experienced in developing and automating LCA models, communicating environmental indicators, and integrating technical solutions into climate-relevant decision-making. Building internal tools to enhance data usability, supporting cross-departmental collaboration, and contributing to innovation culture through practical sustainability solutions. Passionate about impactful work in biobased materials and circular economy systems where environmental science and innovation come together to drive real-world solutions.

Core Competencies

- **Life Cycle Assessment**: ISO 14040/14044, ecoinvent, OpenLCA, Umberto, SimaPro
- **Programming & Automation**: R (tidyverse, RMarkdown), Python (pandas), SQL, Git/Github
- **Reporting & Visualization**: R Shiny, Streamlit, Tableau, Google Sheets (see Gitub), MS Excel, LaTeX
- **Sustainability Strategy & Communication**: Impact management, ESG data, interdisciplinary collaboration
- **Internal Tools & Innovation**: GUI prototyping, Excel-to-interface transformation, knowledge management
- **Cross-Functional Support**: Patent research automation, SAP bill of materials scripting, team enablement across departments

Self-Initiated Data Projects

- **Dashboard:** Developed a Python-based dashboard (Streamlit) for rapid assessment of transport emissions based on mode of transport and diet. (Streamlit App)
- **Software Development:** Led development of a Python-based patent search tool for reproducible, syntax-specific searches; prepared rebuttals for rejected claims.
- **Sensitivity Analysis Tool:** Built Python-based GUI software enabling engineers to perform intuitive sensitivity analyses and immediately visualize parameter impacts (e.g., energy demand).
- **Visualization:** Collaborated with engineers to visualize parameter interdependencies through interactive graphical networks in R.
- **Package Development:** Developing an R package for automating extraction, cleaning, analysis, and visualization of lifecycle assessment data from OpenLCA. Already completed for Umberto.

Professional Experience

Sustainability Data Analyst (Life Cycle Assessment Specialist)
DACMA GmbH, Hamburg *Aug. 2023 – Present*

- Conducted LCAs for direct air capture (DAC) projects (5kt-1Gt/year scale) using Umberto, OpenLCA and ecoinvent.
- Transferred models from Umberto 11 to OpenLCA, saving €5000 over three years.
- Assist across teams with prompt cleaning and analysis of experimental data using SQL and Python.

- Calculated noise emissions and evaluated the effectiveness of counter-measures.
- Created an R package to automate Umberto life cycle impact assessment data processing, visualisation and reporting, reducing work time by over 80%, and currently extending compatibility to OpenLCA (Github: openlca2r_automation).

Research Associate – Industrial Ecology
Karlsruhe Institute of Technology (KIT) *Jul. 2022 – Jul. 2023*

- Modelled and analysed the magnitude and geographic distribution of projected waste flows.
- Built data-driven processes for assessing sustainability potential.

Research Associate / Master's Thesis Student
Fraunhofer Institute for Solar Energy Systems (ISE), Freiburg *May 2021 – Dec. 2022*

- Performed life cycle assessments of carbon capture and renewable energy technologies.
- Developed sustainability strategies based on scientific data analyses.

Education

M.Eng. Environmental Engineering
University of Applied Sciences Weihenstephan-Triesdorf *2020–2021*
Grade: 1.6 | Focus: Environmental Monitoring, Data Analysis, Environmental Forensics
Thesis: *"Life Cycle Assessment of a Direct Air Capture Concept"*
Study projects:

- Feasibility study on integrating silicate weathering into an air conditioning system to capture CO_2.
- Sampling and geomapping species presence-absence in QGIS and statistically analysing the relationships to measured enviornmental parameters in R.

B.Sc. Environmental and Resources Management
Brandenburg University of Technology Cottbus-Senftenberg *2016–2019*
Grade: 1.6 | Electives: Geospatial Analysis, Environmental Technologies, Instrumental Analysis
Thesis: *"Microplastics in soils: A Case Study on Translocation, Toxicity and Fate"*, presented at EGU General Assembly 2020

Certifications & Training

- Data Engineer Track (SQL, Python, Tableau) – Codecademy (ongoing)
- Data Analysis Short Course - Careerfoundry (2025) (Gitub: Citi Bike Project)
- R Programming (data processing, statistical analysis and visualisation) – KIT (2022)

Additional Information

- Unrestricted work authorisation in Germany (permanent residency)
- Member, Forum for Sustainability through Life Cycle Innovation (2025)
- Prefer interdisciplinary, mission-driven environments with a focus on measurable climate impact
- References available upon request