

Alexander Bader

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WORK EXPERIENCE

Gorilla, Belgium OCT 2024 – PRESENT

Senior Algorithm Engineer

- De facto technical lead for all business-logic engineering (energy forecasting/pricing/billing), while remaining a hands-on senior IC.
- Owned system architecture and design decisions across hundreds of algorithms, ensuring performance, extensibility, and multi-region correctness.
- Mentored and technically guided a team of 5-10 engineers through design reviews, code reviews, and pair programming.
- Served as product owner for OOTB business logic, working with product and domain experts to define and shape features.
- Built and maintained Python/AWS Lambda-based formula deployment tooling, orchestrating customer-specific releases and production rollouts.

Gorilla, Belgium NOV 2020 – SEP 2024

Algorithm Engineer

- Rebuilt Gorilla's UK-centric pricing & forecasting logic into a scalable international framework, enabling expansion into AU, US, BE, NL, and DE, and supporting company growth from 15 to over 100 staff.
- Designed and implemented core supporting libraries (e.g., unit of measure and time series handling) used across hundreds of algorithms.
- Drove major performance improvements by migrating business logic from pandas to polars/DuckDB/PySpark.
- Acted as the bridge between domain experts and engineering, translating complex energy-market rules into modular, reusable Python packages.
- Delivered Python algorithms that underpin customer pricing and forecasting workflows at scale, enabling reliable processing of large portfolios.

Miralis Data (now Fuuse), UK JAN 2020 – APR 2021

Data Science Associate

- Developed C# APIs for smart EV fleet charging, combining machine learning and OR-Tools optimisation to minimise electricity costs.

EDUCATION

Lancaster University, UK OCT 2017 – OCT 2020

PhD Space and Planetary Physics

- Investigated Saturn's aurorae using spacecraft imagery and particle/field measurements, performing data analysis and visualisation in Python.
- Published findings in peer-reviewed journals and presented results at national and international conferences.

Luleå University of Technology, Sweden OCT 2015 – SEP 2017

MSc Space Science and Technology

- Studied remote sensing, instrumentation, image processing, spacecraft system design and electronics.
- Thesis on the plasma environment of Venus at IRF Kiruna.

University of Augsburg, Germany OCT 2012 – SEP 2015

BSc Physics

SKILLS

Leadership: Technical design & architecture, mentoring junior and mid-level engineers, code review, cross-functional collaboration, driving best practices, recruitment, Agile / Scrum

Software: Python, SQL, Git, poetry, uv, Pydantic, pytest, mypy

Cloud: AWS, Databricks

ML & Stats: scikit-learn, lightGBM, OR-Tools, optimisation, time-series forecasting & clustering

Data Engineering: polars, pandas, PySpark, DuckDB, Dask, distributed processing, ETL

DevOps: CI/CD, terraform, GitHub Actions

Scientific: Remote sensing, satellite data / image calibration and preprocessing, data analysis & viz

Communication: Delivering demos, explaining complex systems to diverse audiences, aligning with PMs & SMEs, writing technical documentation

Hobbies: Travelling, music, hiking, climbing

LANGUAGES

German: native

English: C2

Dutch: B1

ACADEMIC

Eight first-author papers, various other author papers, and peer review activity (view on ORCID 0000-0002-3641-6783).

REFERENCES

Available upon request