Jakob Stender Guldberg

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Profile

Software & Data Platform Engineer specializing in "industrializing" scientific code. I bridge the gap between complex physical domains and reliable software by transforming experimental PoCs into robust production systems. I strive to develop "simple solutions to complex problems" through expertise in Developer Experience (DevEx), Modernization, and Operational Compliance (NIS2/ISO).

Experience

Nov 2025 – present **Software Consultant**, Stealth Mode Startup (Compliance/RegTech) – Copenhagen

Engineered a secure data platform for regulated markets, achieving readiness for NIS2 and ISO 27001 audits by architecting a strictly typed FastAPI/React system with granular Role-Based Access Control (RBAC).

Nov 2024 – Nov 2025 **Special Consultant**, DIKU (University of Copenhagen) & Darerl – Copenhagen

Increased research tool adoption by modernizing the "RootPainter" ML installer using uv and PEP standards, significantly lowering entry barriers for non-technical users. Accelerated Digital Twin workflows by refactoring experimental mesh-generation code into production-ready Prefect pipelines for reliable execution.

Apr 2024 – Sept 2024 **Data Platform Engineer**, RES (formerly Anemo Analytics) – Copenhagen

Validated real-time Edge Analytics feasibility to replace physical hard-drive shipping, achieving on-device Asset Health monitoring of wind turbines by architecting a high-performance Redpanda (Kafka) and DuckDB time-series pipeline on constrained hardware.

Apr 2022 – Apr 2024 **IT Developer**, Evaxion Biotech A/S – Copenhagen

Delivered critical tooling for a 70-person biotech organization, focusing on automation and data velocity.

- Accelerated literature review (20,000 articles in 3 hours vs 800/week for a five-person team) by engineering an automated LLM pipeline using LlamaIndex and Snakemake.
- Eliminated manual data entry bottlenecks, reducing process time from weeks to minutes, by replacing fragile Excel workflows with a validated Streamlit application.
- Optimized compute resources by setting up a 9-node on-prem HPC cluster (Ansible/Slurm) and implementing NIS2-compliant security controls (Least Privilege/Azure AD).
- Reduced IT request cycle time from weeks to days by implementing GitLab Service Desk and converting inbound emails into assignable issues with standardized triage.

Jan 2021 – Dec 2022 **Student Developer**, Evaxion Biotech A/S – Copenhagen

Streamlined internal operations by developing robust RESTful integrations and database management tools using Django, FastAPI, and PostgreSQL.

June 2020 – June 2021 **Teaching Assistant — Applied Programming**, University of Copenhagen

Mentored students in the Master's course in performance-critical C++ programming, focusing on memory management and optimization for data-intensive applications.

Jan 2020 – Dec 2020 **Student Developer**, DIKU (University of Copenhagen) – Copenhagen

Reduced Teaching Assistant workload by 50% by engineering "Canvas Code Correction," an automated grading platform integrating with the Canvas LMS API (Python/Bash).

Jan 2018 – Dec 2020 **Software Developer**, Obital (Acquired by GN) – Copenhagen

Enabled hands-free smart home control for users with motor disabilities by developing a deep-learning eye-tracking solution running on low-powered mobile devices.

Education

Sept 2018 – June 2022 **University of Copenhagen**, M.Sc. in Bioinformatics (Thesis Submitted) in Machine Learning & Medical Image Analysis
Thesis (Grade 12/A): Developed an end-to-end pipeline to model tumor regression from longitudinal CT scans, enabling survival analysis (Kaplan-Meier) based on estimated volume changes over time. Implemented the high-performance workflow on a Slurm-managed HPC cluster. Transferred to industry to specialize in Data and Software Engineering.

Sept 2014 – June 2018 **University of Copenhagen**, B.Sc. in Science and IT in Scientific Computing (Physics Specialization)
Interdisciplinary foundation in Mathematical Modeling, Computer Science, and Physics.

Extra Curricular Activities

Nov 2025 – present **Canvas Code Correction v2**

Re-architecting grading platform for cloud scalability using Prefect and Pydantic to implement modern observability and security practices.

2024 **NixOS & Flakes Guide**

Mastered reproducible and immutable system configuration using NixOS and Nix Flakes. Full declarative configuration and implementation patterns are available in my # link("https://github.com/jakob1379/nix-config")[nix-config] repository.

2023 **Continuous Learning (Talk Python)**

Advanced coursework in FastAPI, Ansible, and Pytest to maintain cutting-edge Python proficiency.

2020–Present **Open-source contributions**

Contribute via PRs to public repositories by reading issues and identifying possible pain-points I can help with through a review-first workflows by giving and receiving actionable feedback, and using AI-assisted development in PR scrutiny (tests, edge cases, refactor opportunities).

Technologies

Languages & Core: Python (11y): FastAPI, Django, Pydantic, Typer, AnyIO. Data: Polars, DuckDB, SQLAlchemy, NumPy. Other: Bash, SQL, C++

Infrastructure: DevOps: Docker, Ansible, Nix, Terraform. CI/CD: GitHub Actions, GitLab CI. Observability: Prometheus, Grafana, Loki.

Data & Domain: IoT/Edge: Redpanda (Kafka), MQTT, Edge Analytics. Orchestration: Airflow, Prefect, Slurm (HPC). Compliance: NIS2, GDPR, ISO 27001.

Languages

Danish: Native

English: Fluent