

Jan Khoury

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EU Citizen

Work Experience

Backend Software Engineer

Apr 2022 – Present

Ocean Data Integration Initiative

Berlin, Germany

- Developed multithreaded microservices for an oceanographic data platform using FastAPI, Pydantic, and Pandas, reducing data processing times and research workloads by at least 35%
- Built REST APIs with Swagger docs and integrated external oceanographic data sources, streamlining research data collection by providing access to 1M+ datasets through a single interface
- Decomposed a monolithic data integration system into 3 microservices and owned them end-to-end, increasing maintainability and scalability while minimizing disruption to the overall system
- Provisioned GCP infrastructure containing databases and serverless components, and automated deployment using Terraform, GitLab CI/CD, and Docker, reducing release times from hours to minutes
- Denormalized PostgreSQL database tables and embedded simple foreign tables into JSONB array columns, decreasing query processing times and making data integration jobs 10% faster
- Converted OWL ontologies into Neo4j graphs and SPARQL queries into Cypher, accelerating node retrieval and ontology load times by 90%, and enhancing the ontology visualization interface
- Replaced custom user authorization and authentication with an OAuth2 and OIDC compliant solution using Identity Platform and Firebase, enabling SSO and simplifying user onboarding

Skills

Programming Languages: Python, TypeScript, JavaScript, Java

Frameworks & Libraries: FastAPI, Pydantic, SQLAlchemy, Pandas, Pytest, Express.js, React, Next.js

Cloud Computing: BigQuery, Cloud SQL, Cloud Storage, Cloud Run, Cloud Build

Query Languages: SQL, Cypher, SPARQL

CI/CD Tools: Terraform, Docker, GitLab CI/CD

Education

Technical Foundation

Jan 2020 – Mar 2022

- Learned Python, C programming and Linux administration through reading books and experimenting
- Developed command-line tools using C and Bash for personal use and knowledge implementation
- Progressed from Ubuntu to Gentoo and compiled custom kernels and packages from source code
- Achieved a strong foundation in programming and systems that later supported my professional career

Languages

Native: Arabic

Full Professional Proficiency: English, Hebrew

Limited Working Proficiency: German