David Isaac Belais

505 SE 35th Ave, Portland OR 97214 | 503-267-0942 | david@belais.me | david.belais.me | github.com/davebelais

Summary

I am a highly productive software and data engineer with 18 years of experience, including 15 years working in complex, matrixed, enterprise organizations.

I pride myself in:

- Creating resilient, maintainable, integrous data products
- Authoring elegant, bulletproof, type-annotated, well-formed, thoroughly tested, distributable Python libraries, CLIs, asynchronous microservices (web APIs), and SDKs
- Designing efficient, maintainable, testable, continuously integrated and deployed, modern software systems
- Planning development work with clarity, flexibility, parallel execution, and collaboration in mind

My Tools

Python, SQL, Spark, Databricks Lakehouse, Snowflake, Airflow, AWS (Amazon Web Services) EMR (Elastic Map Reduce), AWS Lambda, AWS Aurora, AWS IAM, Okta + OAuth 2, Apache Kafka (Produce + Consumer), Pub-sub Github, PostgreSQL, Open API (Swagger), Linux, SQL Server, Github Actions, Jenkins, SQLAlchemy, XML, HTML, SOAP, WSDL, C++, Javascript (not exhaustive, and not necessarily in this order)

Experience

Nike | Lead Data/Software Engineer - Sustainability Analytics | March 2021 - June 2025

- I lead engineering of the Nike Product & Materials Sustainability Index with data products published in Databricks Lakehouse (Unity Catalog), Snowflake, and (prior to 2023) S3 + hive/presto + EMR. We utilized Spark, Python (applications and libraries, distributed through JFrog Artifactory), ASGI Microservices (Python + FastAPI + SQLAlchemy + Alembic), Apache Kafka (as a publisher), and AWS Aurora PostgreSQL. This entailed design and implementation of systems for distilling material manufacturing process lifecycle assessment data, the expertise of the material scientists and Sustainability professionals with whom we collaborated, and materials data from our product creation systems into data products attributing environmental impact measures (greenhouse gas emissions and water quality degradation/depletion) to Nike materials. We subsequently parsed product bills of material line items in order to infer material gross usage (way more involved than it sounds) in kilograms. Applying these measures to purchase order and demand planning data we were able to measure and track aggregate impacts for the enterprise. More importantly, we provided tools for product developers to reduce environmental impacts through better materials selection during the design process. To this end, we stood up microservices (Python + FastAPI on AWS lambda) for product and material footprint scenario modeling.
- I lead development of foundational data products exposing Environmental Health & Safety data from our 3rd-party EHS reporting system, Enablon (via their "Blink" OData API), in Databricks Lakehouse (Unity Catalog), Snowflake, and (prior to 2023) S3 + hive/presto + EMR. I used Spark and Python.
- I authored enterprise CLIs (command line interfaces) and frameworks (Python libraries) for use in CI/CD and locally, numerous SDKs (software development kits) for internal and third-party platforms, extended SQLAlchemy and Alembic to facilitate use of ORMs (object relational mappings) across multiple dialects simultaneously, and to facilitate common and complex data frame operations in Spark, validate data products based on ORM metadata, securely retrieve managed credentials, and many other common development tasks.

BICP @ Nike | Lead Data/Software Engineer - Sustainability Analytics | March 2020 - March 2021

- I developed a SQLAlchemy-ORM-based framework for automating deployment and versioning (schema migration) supporting all database dialects leveraged by the Nike Enterprise Data & Analytics organization: Databricks, Snowflake, Hive/Presto on S3, and PostgreSQL with full rollback and versioning support.
- I authored a framework for Sustainability Analytics' ETL jobs incorporating end-to-end schema-based data validations, local testing, and environment + file system abstraction.

BICP @ Nike | Senior Data/Software Engineer - Sustainability Analytics | January 2020 - March 2020

The Kroger Co. | Lead Data/Software Engineer - Web & Digital Analytics | May 2018 - November 2019

- I lead development of data products distilling and exposing analytics to buyers and planners correlating digital and store sales and EBITDA with inventory,sell-through, prices, and promotional events—contributing to decisions resulting in a 56% increase in e-commerce sales in 2018 vs 2017, and a 67% increase in ecommerce sales in 2019 vs 2018.

The Kroger Co. | Lead Data/Software Engineer - Product Information Management | November 2013 - May 2018

- I lead development of multi-platform (Spark/Hive/Presto, Netezza, DB2, Python, SQL Server, SQLAlchemy) OLAP and OLTP data products to ingest, consolidate and normalize sales, dimensional, and click-stream data from disparate subsidiary and partner systems' transactional databases, streaming platforms, APIs, and mainframes.
- I engineered algorithms for scoring semi-structured data and performing human-in-the loop data validation and auditing for product descriptions, specifications and photography acquired through trading partners (Python).
- I established source-management capabilities for inbound data to handle complex retailer/vendor/manufacturer relationships (Python).
- Collaborated with emerging digital initiatives to ensure the capture of all metrics needed to facilitate accountability and continuous operational improvement.

The Kroger Co. (Fred Meyer Stores Inc.) | Business Systems Analyst - Ecommerce | March 2011 - November 2013

- I researched, designed, and prototyped Fred Meyer's (and later Kroger's) product information management system for customer-facing digital initiatives.
- I collaborated with Fred Meyer's technology partner, 1WorldSync, to establish a roadmap, data model, and procedures for sourcing and validating product data from GDSN data pools for use in digital sales channels.

Dissent Graphics Inc. | Full-Stack Developer | January 2008 - March 2011

- I designed and developed web applications for clients including: The Garrigan Lyman Group, Microsoft, Best Buy, Avenue A Razorfish, Nereus Communications, BlackEyedPeas.com, TeeFury.com, the Travel Channel's Man v. Food, TheWho.com, Custom Rights, Hello Minor, ExoticTravelers.com, and the ACLU of Oregon.

Education

- Portland State University | Computer Science (Postbaccalaureate) | 2018
- The Art Institute of Portland | Media Arts & Animation | Bachelor of Science | 2007
- Portland State University | Web Design | 2002 - 2004
- Loyola Marymount University | Fine Arts | 2000 - 2001

Open Source Projects

...because code examples are worth a thousand interview questions!

- dependence: A CLI and library for aligning a python projects' declared dependencies with the package versions installed in the environment in which dependence is executed, and for "freezing" recursively resolved package dependencies (like pip freeze, but for a package, instead of the entire environment).
- maya-zen-tools: An Autodesk Maya extension providing modeling tools for manipulating a polygon mesh using dynamically created NURBS curves and surfaces to distribute vertices and/or UVs
- oapi: A python library for generating client SDKs from Open API documents
- git-author-stats: A CLI and library for extracting periodic author "stats" (insertions and deletions) for a Git repository or Github organization
- gittable: A CLI and library for performing common, but complex, development and CI/CD tasks for a Git repository, such as tagging a commit with your current project/package version and downloading or accessing specific file(s) from a remote repository (including non-public repos)

Please see Github (github.com/davebelais) for a full accounting of my activities :-)

Certifications

- AWS Certified Big Data - Specialty
- AWS Certified Cloud Practitioner