

William Da Silva

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<https://github.com/WillDaSilva> (for Meltano)

<https://gitlab.com/WillDaSilva> (for everything else)

<https://www.linkedin.com/in/will-da-silva/>

Skills Overview

- Extensive Python experience; predominately library and application development.
- Working knowledge of Cython, C, q/k (kdb+), Bash/sh, C++, Javascript, Kotlin, and more.
- Deep knowledge of git and git internals, and a wealth of practical experience using it.
- Experience with Docker/containerization, and Kubernetes.

Work Experience (refer to LinkedIn for promotion dates - titles shown are what I most recently held)

Staff Software Engineer for Meltano

May 2022 - Present

- Developed tooling for and led the migration of Meltano's organization from GitLab to GitHub.
- Overhauled Meltano's telemetry systems.
- Built Meltano Cloud (<https://meltano.cloud>) from the ground up as the initial developer, and later as a technical leader for a growing team of developers. Designed and implemented a serverless architecture with IaC (infrastructure as code) tools on AWS that was robust and testable.
- Led the effort to use an ORM for DynamoDB to make our data model consistent across the large infra codebase (monorepo), and to enforce application-level constraints within our microservices.

Senior Software Engineer for KX

20 months co-op from 2018 to 2020 | May 2021 - May 2022

- Lead developer of PyKX (<https://code.kx.com/pykx/>), a library to interface between the Python and q languages, with the primary goal of making kdb+ accessible to Python users via a feature-rich Pythonic interface (e.g. wrapped q type-system, q console, etc.) without compromising performance:
 - Developed PyKX primarily solo, from initial proof-of-concept projects to a stable product used in production internally and by many clients.
 - Provides the ability to run q embedded within a Python process, run Python embedded within a q process, and access q processes over IPC using a Python client.
 - Handled cross-team/company communication between engineering, management, marketing, licensing, sales, and clients directly - all to make this project a reality.
 - Cross-platform support for Linux, macOS, and Windows, with support for both the CPython and PyPy Python interpreters.
 - Extensive testing (including a robust CI/CD setup) to build and test PyKX for every supported OS/Python-version/Python-implementation combination.
 - Performed system call interception to rewrite memory management system calls in order to access and manipulate data created & used by black-box/third-party code without copying.
- Designed and implemented the Python interface for the KX Insights Stream Processor (using PyKX), which granted the power of q-based stream processing to non-q developers.
- Developed an import & module system for our q code, which would intelligently find modules, as well as recursively resolve dependencies. I used it to overhaul the build process for our IDE product.
- Extended the Git integration of our IDE to support new features, while providing ongoing maintenance as my coworkers and I reduced the technical debt of the legacy system.

Education

Carleton University, Bachelor of Computer Science, Honours

September 2016 - April 2021

- CGPA: 11.15/12.00; Major GPA: 11.55/12.00
- Algorithms Stream | Minors in Mathematics & Philosophy
- Senate Medal for Outstanding Academic Achievement