

# Cal Paterson

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## DETAILS

Based in Espoo, Greater Helsinki.  
*Email:* [cal@calpaterson.com](mailto:cal@calpaterson.com)  
*Blog:* <https://calpaterson.com>  
*Github:* <https://github.com/calpaterson/>  
*Available:* Immediately  
*Last updated:* 6<sup>th</sup> August 2024  
*Working language:* English

## INTENTION

I am looking for work as a lead or senior software engineer.

## CURRENT PROJECTS

- Organiser of Helsinki Python group (“HelPy”)
  - I am one of the organisers, we meet monthly and host talks
  - Hosted events at Wolt, Hive, Zalando, etc
  - 80-100 people typically attend
- csvbase (<https://csvbase.com>)
  - csvbase is a website for sharing tabular data, a bit like Github, but for data
  - My own project, which I have taken all the way from idea to product
  - Fully open source - <https://github.com/calpaterson/csvbase>
  - Small number of paying subscribers
  - Key skills/technologies used: **Python, PostgreSQL, Pandas, Polars, DuckDB Celery**

## SELECTED HISTORY

- Contract Python development at Hartree Capital Partners (*August 2022-February 2024*)
  - Hartree are a energy and commodity trading firm (“hedge fund”)
  - Time split between hands on work on pre-trade data delivery/transformation pipelines and coaching quantitative developers
  - Key skills/technologies used: **Python, Pandas, Snowflake, MS-SQL, PostgreSQL, PySpark**
- Parental leave (*February 2022-August 2022*)
- Contract Python development at Pollen (*June 2021-February 2022*)
  - Pollen are a venture capital backed travel/events startup
  - I worked on the central booking system, helping migrate to a microservice architecture s
  - Key skills/technologies used: **Python 3, PostgreSQL, Django**
- Contract Python development at Limejump (part of Shell) (*February 2021-June 2021*)
  - Limejump are a small energy trading business acquired by Shell
  - Ported core power plant scheduler (and internal dependencies) from legacy “yield from” async style (Python 3.4) async to newer async/await style (Python 3.7)
- Parental leave (*June 2020-January 2021*)
- Contract Python development at Tails.com (*February 2020-June 2020*)
  - Tails.com are an online bespoke dog food manufacturer and seller
  - Worked on conversion from monolith to microservices
  - Introduced **mypy** static type checking for existing monolith codebase (~200k lines of code) which helped catch bugs earlier.
  - Key skills/technologies used: **Python 3, Kubernetes, PostgreSQL, Redis, Flask, mypy**
- Contract Python development at Bulb (*April 2019-October 2019*)
  - Bulb were a venture-backed energy company

- Senior engineer on Bulb's new microservice software system for international expansion which launched in three countries .
- Key skills/technologies used: **Python 3**, **Kubernetes**, **PostgreSQL**, **Google Pubsub**, **Flask**, **mypy** (static typing for Python), **Restful API design**, **numpy**
- Contract Python development at JP Morgan (*July 2018-April 2019*)
  - Front office software engineering on a desk responsible for investable indices of credit default swaps
  - Key technologies used: **Python**, **Athena** (JP Morgan's proprietary Python environment), **Test Driven Development**, JP Morgan's proprietary table library (similar to **Pandas**)
- Contract software development at Bank of America Merrill Lynch (*December 2016-January 2018*)
  - Worked on BAML's real time reporting engine ("Insight") which was originally developed for MIFID2 but later was also used for FinfraG, SFTR and some internal KYC/AML reporting
  - I was a senior developer on this project, which used BAML's proprietary **Quartz** platform - similar to SecDB/Athena. **Python**, the **AMPS** message bus and **Apache Avro** for inter-system messaging
  - Wrote web documentation system for BAML's newly standardised inter-line-of-business binary messaging with Python
  - Led the release process - daily releases in a sensitive regulatory area
- Senior Python Developer at Onefinestay (*September 2015-April 2016*)
  - Onefinestay were a venture-backed startup that let people rent out their luxury apartments to paying guests while providing hotel style service (cleaning, greeting, maintenance, etc)
  - Implemented bi-directional synchronisation between their **asynchronous** microservices architecture and Salesforce with **Python** and **RabbitMQ**
  - Delivered training on the internals of their chosen database system (**MySQL - InnoDB**) and followed up with coaching and code review to help them improve query performance and data quality
- Lead Python Developer at Inplaymaker (*June 2014-August 2015*)
  - Inplaymaker was a small startup building a mobile fashion app with some additional agency work
  - Lead development of custom machine learning platform with **Scikit-Learn/numpy** and natural language processing to classify e-commerce products by gender, colour and category
  - Infrastructure automation in **Ansible**
- Consultant Software Developer at ThoughtWorks (*January 2012-April 2014*)
  - ThoughtWorks are a software consultancy focusing on agile software development
  - I worked for clients such as GOV.UK, Springer and others

## EDUCATION

- BSc in **Computer Science from Aberystwyth University**
  - Dissertation on *Using Decision Tree Learning to Reconstruct Post-Flop Decision Making in Texas Hold'em Poker*
  - Dissertation involved large SQL database with hundreds of millions of poker hands
  - Experience with: **Haskell**, **Python**, **SQL**, **Java**, **Prolog**, **C**, **L<sup>A</sup>T<sub>E</sub>X** and others
- Awarded Nuffield Science Undergraduate Research Bursary (*June-November 2010*)
  - Worked on research project: *Optimisation of automated biological sample preparation using SAT solvers*
  - Developed custom optimisation system using **Haskell** and SAT solvers

## SELECTED SIDE PROJECTS

- **pyappcache**, a type-checked application cache library
- **Quarchive**, a "Web 1.0"-style social bookmarking site with bidirectional sync to browser bookmarks using CRDTs
- **Missive**, a work-in-progress event processing library