

Sam Frances

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Experienced software engineer with with solid abilities in frontend and backend web development. I enjoy pushing myself to master new languages, frameworks, design patterns and programming paradigms.

Technical Skills

Languages

- *** Python, TypeScript, Javascript, TypeScript, HTML5, CSS3
- ** SQL, C++
- * Go, Haskell, C, Erlang, Elixir

Frameworks and libraries

- *** Django, Django REST Framework, Tornado, Redux
- ** Qt, React, Jest, JQuery, Flask, Celery
- * Aiohttp, Ansible, Jasmine, Knockout, Google App Engine, Google Cloud Endpoints

Databases, caches, brokers etc.

- *** Redis
- ** SQLite
- * RabbitMQ, MongoDB

Other

- OS Ubuntu Linux
- VCS Git/Github
- Editors VSCode, Sublime, Vim

Work Experience

2021–current **Senior Software Engineer**, *Cydar Medical*

2017–2020 **Front End Software Developer**, *Cydar Medical*

- Member of development team for a growing medical SaaS company, providing cloud-based fusion imaging for surgical guidance.
- Created front-end of a project to allow clinicians make adjustments to aorta overlays during endovascular procedures. Implemented using Redux, Typescript, Jest and Python.
- Assisted with the design of an overhaul of Cydar's internal content-addressable storage service. Prototyped a "shared streams" mechanism allow more efficient downloads when multiple clients access the same files concurrently, using Python, Asyncio, Aiohttp and Boto.
- Worked on front-end and API endpoints for "Dynamic Morphology Correction" feature, using Typescript, Three.js, Python, Tornado and JSON-Schema.
- Led development of a cloud-based solution for presenting native 3D accelerated software in the browser.
- Architected and managed the rewrite of a microservice to orchestrate scaling of large pools of EC2 GPU workers, including a web-based control GUI, an improved incremental scale-down system, and greater reliability.

2016–2017 **Junior Front End Developer**, *Cydar Medical*

2010–2016 **Public Affairs Executive**, *The London Internet Exchange Ltd (LINX)*

Side Projects

February 2019 **Rejection App**, github.com/samfrances/rejection

- Frontend application built in TypeScript and React, and using the useState and useReducer hooks.

February 2019 **C++ Two-Player Snake Clone**, github.com/samfrances/CppND-Capstone-Snake-Game

- An SDL-based two-player snake clone, developed using modern C++ techniques.

November 2019 **C++ System Monitor App**, github.com/samfrances/CppND-System-Monitor-Project-Updated

- A simplified htop clone for monitoring a linux operating system.
- Developed in a test-driven manner using GoogleTest and GoogleMock.

- April 2016 **Kalah Game API**, github.com/samfrances/udacity-kalah
 - o Created an API for Kalah, a turn-based two-player "count and capture" board game.
 - o Written in Python using Google App Engine, Cloud Endpoints and Datastore.
- February 2016 **Catalog App**, github.com/samfrances/udacity-item-catalog
 - o Developed a content management system using the Flask framework in Python.
 - o Authentication is provided via OAuth and all data is stored within a PostgreSQL database.
- November 2015 **Swiss Tournament**, github.com/samfrances/udacity-swiss-system-tournament
 - o Designed and created a database for managing multiple Swiss-system tournaments simultaneously.
 - o Employed advanced SQL features such as views and triggers.
- February 2015 **Udacity Movies Website**, github.com/samfrances/udacity-movies-website
 - o Single-page app to display information from the OMDb API, and combine with related trailers from Youtube.
 - o Combined both front- and back-end technologies, including Python, Bootstrap, JQuery, WSGI, HTML5.
- February 2014 **MVC todo list demo**, github.com/samfrances/todo-mvc-demo
 - o Simple Javascript todo list application, written as an exercise in creating an MVC Javascript application, without an MVC framework.

Certifications and Professional Development

- 2019–current **Software Development Micromasters**, *Edx, UBCx*
 - o UBCx: How to Code - Simple Data, courses.edx.org/certificates/889346c63c2741d698ebc739811d0e5b
- 2016–current **Computational Thinking using Python XSeries**, *Edx, MITx*
 - o MITx: 6.00.1x Introduction to Computer Science and Programming Using Python, git.io/vK7kh
- 2019–2020 **C++ Nanodegree**, *Udacity*, confirm.udacity.com/7DDGS6J2
- 2018 **JavaScript Foundations**, *DevAnywhere.io*, credential.net/a796d867-1324-4698-bdb1-9f678cff402b
- 2016 **Front-End Web Developer Nanodegree**, *Udacity*, confirm.udacity.com/QJCGFPED
- 2016 **edX Computer Science**, *HarvardX*
 - o CS50x Introduction to Computer Science, courses.edx.org/certificates/77c3400beb254e21a843faf77a20b518
- 2015–2016 **Full Stack Web Developer Nanodegree**, *Udacity*, confirm.udacity.com/XD5UH24D
- 2015 **LINX Accredited Internet Technician 1**, *Systems & Network Training*
- 2012–2013 **Udacity computer science certificates**, *Udacity*
 - o CS101 Introduction To Computer Science, git.io/vK7OQ
 - o CS253 Web Development, git.io/vK7Op
 - o CS255 HTML5 Game Development, git.io/vK73T
 - o CS262 Programming Languages, git.io/vK73Y

Education

- 2009–2010 **M. A. Linguistics**, *University College London*
- 2006–2009 **B. A. Philosophy**, *King's College London*