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Sam Frances

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
- Created an API for Kalah, a turn-based two-player "count and capture" board game.
- Written in Python using Google App Engine, Cloud Endpoints and Datastore.

February 2016 **Catalog App**, github.com/samfrances/udacity-item-catalog
- Developed a content management system using the Flask framework in Python.
- 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
- Designed and created a database for managing multiple Swiss-system tournaments simultaneously.
- Employed advanced SQL features such as views and triggers.

February 2015 **Udacity Movies Website**, github.com/samfrances/udacity-movies-website
- Single-page app to display information from the OMDb API, and combine with related trailers from Youtube.
- 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
- 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*
- UBCx: How to Code - Simple Data, courses.edx.org/certificates/889346c63c2741d698ebc739811d0e5b

2016–current **Computational Thinking using Python XSeries**, *Edx, MITx*
- 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*
- CS50x Introduction to Computer Science, courses.edx.org/certificates/13223d0945a24197a00f9ee0b92ba76f

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*
- CS101 Introduction To Computer Science, git.io/vK7OQ
- CS253 Web Development, git.io/vK7Op
- CS255 HTML5 Game Development, git.io/vK73T
- CS262 Programming Languages, git.io/vK73Y

Education

2009–2010 **M. A. Linguistics**, *University College London*

2006–2009 **B. A. Philosophy**, *King's College London*