

# 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.*

## 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*

## Side Projects

- February 2019 **Rejection App**, [github.com/samfrances/rejection](https://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](https://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](https://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](https://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 2015 **Udacity Movies Website**, [github.com/samfrances/udacity-movies-website](https://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.

## Certifications and Professional Development

- 2019–2020 **C++ Nanodegree**, *Udacity*, [confirm.udacity.com/7DDGS6J2](https://confirm.udacity.com/7DDGS6J2)
- 2018 **JavaScript Foundations**, *DevAnywhere.io*, [credential.net/a796d867-1324-4698-bdb1-9f678cff402b](https://credential.net/a796d867-1324-4698-bdb1-9f678cff402b)
- 2016 **Front-End Web Developer Nanodegree**, *Udacity*, [confirm.udacity.com/QJCGFPED](https://confirm.udacity.com/QJCGFPED)
- 2016 **edX Computer Science**, *HarvardX*
- CS50x Introduction to Computer Science, [courses.edx.org/certificates/77c3400beb254e21a843faf77a20b518](https://courses.edx.org/certificates/77c3400beb254e21a843faf77a20b518)
- 2015–2016 **Full Stack Web Developer Nanodegree**, *Udacity*, [confirm.udacity.com/XD5UH24D](https://confirm.udacity.com/XD5UH24D)
- 2015 **LINX Accredited Internet Technician 1**, *Systems & Network Training*

## Education

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