

# Joe Flack

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Baltimore Full Stack Developer 🔗 [Check his GitHub visualize report](#)

## Work Experience

### PMA2020

2016-09 ~ 2018-10

#### Programmer Analyst

##### XFormTest

- A CLI tool for creating and running automated tests to ensure the quality and stability of XForms, an M&E industry standard for creating electronic surveys.
- Java, Python (Sphinx, tests)
- Product lead, Lead developer

##### PPP

- A tool for converting XForms into printable, editable forms such as Word documents.
- Python (Flask, Argparse, PyPi/Twine), JavaScript, Linode, Heroku, CircleCI
- Product lead, Lead developer, Dev team lead

##### Viffer

- A CLI tool for diffing XLSForm spec M&E survey Excel files. A sub-package of the "pmix" library for various XForms related tools.
- Python (XLRD, XlsxWriter, Pandas)
- Product lead, Lead developer

##### PMA Survey Hub

- An ideation-phase project that is PMA2020's fork of KoBoToolbox, a web app for creating and managing electronic surveys.
- Docker
- Product lead

##### PMA Translation Hub

- A pre-release project of a web application for doing translation management of M&E survey content
- JavaScript (React, Redux), Python (Flask), Heroku
- Lead developer

##### hmis.pma2020.org

- PMA2020's deployment of DHIS2, a data warehouse and BI solution for governments and M&E organizations to store medical health and public health data. Demo credentials: demo / TheHotNewSystem2020#
- Python, Bash, SQL
- Product lead (former)

##### Datalab

- A web app for visualizing PMA2020 data.
- JavaScript (jQuery, Selenium), AWS S3, CircleCI
- Dev team lead

##### PMA API

- A somewhat RESTful API for programmatic access to PMA2020 data.
- Python (Flask, SQLAlchemy, Sphinx), R, SQL, PostgreSQL, Heroku
- Developer

##### Data collection quality reporting tool

- A brand new, pre-release project of a tool to help report on data quality of interviewers during M&E survey data collection operations.
- Python (XLRD, XlsxWriter), Stata
- Developer

##### pmix

- A mixed bag of CLI tools for working with XForms.
- Python (Argparse, XLRD, XlsxWriter, PyPi/Twine)
- Contributor

##### QTools2

- A tool for converting XLSForms to XForms, both of which are specs for creating M&E surveys.
- Python
- Contributor

##### Open Data Kit (various projects)

- This is what I was originally hired to do as my primary job function at PMA2020. It involves using Excel and coding XPath logic into spreadsheet cells. These documents are the source code for survey forms that can run on the Open Data Kit (ODK) platform and other tools in that ecosystem.
- XPath, Bash, Makefile
- Programmer

### Sonshine Companion

#### Care

2014-09 ~ 2016-09

#### Accounting Team Lead

### Sonshine Companion

#### Care

2014-09 ~ 2016-09

#### IT Team Lead

##### Just-a-Dash

- An in-house, light-weight combined HRM/CRM tool.
- Python (Flask, SQLAlchemy, Alembic), JavaScript (Angular, Bootstrap), PostgreSQL, Heroku, Twilio
- Lead developer

##### SCC File Renamer

- A PowerShell script to automate tedious file renaming routines.
- PowerShell
- Software lead

##### Finance reporting tools

- Scripts and spreadsheets to create custom reporting not otherwise available in our accounting software.
- ODBC, Excel, Google Sheets
- Software lead

##### SonshineCompanionCare.com

- Company's public-facing website.
- Wordpress
- Design lead, Web administrator

### Several schools

2009-03 ~ 2014-08

#### English Teacher

Details available upon request.

### Several companies

2008-10 ~ 2009-04

#### Various titles

Details available upon request.

## Personal Projects

### Health Hub - Mobile

#### Client, Glaucoma

A pre-release phase project of a hybrid mobile application (iOS/Android) for which allows patients suffering from Glaucoma to record their symptoms, visualize the data, and share it with their doctor.

[Cordova](#) [PhoneGap](#) [Monaca](#) [OnsenUI](#) [JavaScript](#) [React](#) [Auth0](#)

### Health Hub - Web app

A pre-release phase project of a web application that is the central point allowing users to manage their personal health data collected from a suite of illness-specific mobile applications.

[JavaScript](#) [React](#) [Apollo Client](#) [GraphQL](#)

### Health Hub - Public

#### facing site

A pre-release phase project of a public facing web site for the Health Hub project.

[JavaScript](#) [React](#)

### Health Hub API

A pre-release phase project of a server-side part of GRAND stack based web and hybrid mobile application suite.

[JavaScript](#) [Node](#) [Apollo Server](#) [GraphQL](#) [Neo4j](#)

### Health Hub

#### Components - Sidebar

A customized fork of a react sidebar component.

[JavaScript](#) [React](#)

### Ice HRM- Home-

#### Health-Edition

An abandoned, previously unreleased project. A fork of IceHRM, an open source Human Resource Management System. This project was abandoned and replaced by Just-A-Dash (<https://github.com/joeflack4/just-a-dash>), which was developed during my time at Sonshine Companion Care.

[PHP](#) [JavaScript](#)

### Personal health data

#### analysis

An analysis I did of my wife's calendar health data. She has given permission for public release. Source: <https://tinyurl.com/jupyter-ashley-data-source>

[R](#) [Jupyter Notebook](#)

### DocUnit

A package to conveniently hook doctests and unit tests together.

[Python](#) [PyPi](#) [Twine](#)

### Setuptools

Contributed a small, accepted PR, and a bigger, open PR to core Python library Setuptools.

[Python](#)

### JSON-to-GraphQL-

#### Query

Added features to a library for converting GraphQL-spec-like JSON to GraphQL-spec query strings.

[JavaScript](#) [Node](#) [GraphQL](#)

### OpenModel

An unfinished, abandoned project using metaprogramming to automatically generate SQLAlchemy classes and databases via source YAML code conformant to newly created, proprietary "OpenModel spec".

[Python](#) [SQLAlchemy](#) [Swagger](#) [OpenAPI](#)

### Maps-to-Buildings

Converts a map image to a list of building polygon coordinates. My idea was to use this in to generate renderings of real world locations as playable areas in Minecraft.

[Python](#) [Matplotlib](#) [scikit-image](#) [Google Maps API](#)

### Deep Learning

#### Colorization

Python script using Algorithmia API to colorize black-and-white images.

[Python](#) [Algorithmia API](#)

### Grand Stack Starter

Contributed documentation to GRAND stack related library.

[Markdown](#)

### Lorem Ipsum Table o'

#### Posts

Created a simple table component in Angular.

[JavaScript](#) [Angular](#)

### Jupyter Notebooks

A compilation of my personal Jupyter Notebooks. Some of these are for personal data analysis purposes. Others of these were for classes.

[R](#) [LaTeX](#) [Python](#)

### Minecraft Mods

Very simple Minecraft mod to render a piece of cheese.

[Java](#)

### Watson Chatbot

Tinkered with the IBM Watson API.

[Python](#) [Watson API](#)

### React Bootstrap Table

Forked a react bootstrap table component for use in PMA Translation Hub project at PMA2020.

[JavaScript](#) [React](#)

### JoeUtils

A dumping ground for re-usable code that I didn't think were important enough to bother deploying as separate packages.

[Python](#)

### FlaskTriangle

Forked Flask-Triangle and pushed my own fix to PyPi for use in projects that use Jinja2 templates simultaneously with Angular.

[JavaScript](#) [Angular](#) [Python](#) [Flask](#)

## Education Experience

Coursera,

FreeCodeCamp,

CodeCademy, edX,

Udacity, Udemy,

Lynda.com,

HackerRank

2014-09 ~ 2018-10

其他

University of Florida

2008-11 ~ 2008-11

Bachelor of Arts, Philosophy

本科

Pensacola State

College

2008-10 ~ 2008-11

Associate of Arts

本科

## Self Assessment and Other Links

### Self Assessment

- Please read here: <https://tinyurl.com/joeflack-self-assessment>

### Other Links

- GitHub : [github.com/joeflack4](https://github.com/joeflack4)
- Stackoverflow : <https://stackoverflow.com/users/5258518/joe-flack>

Primum non nocere.

