

+ summary

I have a PhD in Applied Mathematics and also won a prestigious EPSRC doctoral prize. I have strong knowledge of Linear Algebra, Multi-variate Calculus, Advanced Statistics and Deep Learning. I'm always learning and expanding my expertise. More than this, however, and owing to my 8 years experience as a Senior Python Developer, I also bring the ability to write scalable, well-tested, production-ready and clean Pythonic code. Plus battle-tested expertise across the Python ecosystem and its various libraries and frameworks. I'm very familiar with Tensorflow, PyTorch, NumPy, Pandas, Scikit-Learn, Django, Flask, Scrapy, REST APIs and more. I've worked on apps with tens of thousands of users as the lead developer, and am comfortable with cloud technologies such as AWS and similar.

+ employment

Marcel For Art

Lead Backend Developer

Remote

2018 to 2022

Developed from zero the backend API for a mobile-first marketplace growing to over 70k users. Marcel allows artists to get discovered and sell their art Tech stack: Python, Django REST API, AWS, Lambdas, Memcached, Sentry Monitoring, SSO, unit testing and circleCI, Elasticsearch, Postgres, ML feed via AWS Personalize.

Northshore Automation

Senior Backend Developer

Remote, US

2019 to 2020

Backend development of middleware, custom programming, and scripting for a Media Asset Management system. Using Celery, Python, Flask, Mongodb, Docker.

Tickerface

Backend Developer

Remote, UK

2018 to 2019

Developed the DRF API for a mobile social-shopping application, and helped showcase it in Lisbon WebSummit 2018.

Evopricing

Backend developer

Remote, UK

2015 to 2018

Developed a Django UI that allowed visual training of "smart" scraping bots, email alerting, scheduling. Large scale parallel scraping and cleaning/wrangling of huge datasets, along with ban avoidance techniques.

Tech: Django, Extensive use and heavy customisation of Scrapy, SQL, Celery, Redis, Selenium, MySQL

Clandestine Brewing

Software Developer

Remote, US

2014 to 2015

Developed a Django based website for a Californian microbrewery

+ awards

Universitas 21

Funding for month-long visit to the University of British Columbia

EPSRC - Doctoral Prize

The EPSRC Doctoral Prize is a prestigious scheme aimed at developing the very best (top 15%) EPSRC funded students beyond the end of their PhD

2013

University of Manchester - Platt Prize

Awarded for outstanding achievement in a Master's degree

2007

+ publications

- Static detectors and circular-geodesic detectors on the Schwarzschild black hole - Physical Review D · May 1, 2014
- Unruh-DeWitt detector response along static and circular-geodesic trajectories for Schwarzschild-anti-de Sitter black holes - Physical Review D · Mar 9, 2014
- Unruh-DeWitt detector on the BTZ black hole - Relativity and Gravitation · Jan 1, 2014
- Static, stationary, and inertial Unruh-DeWitt detectors on the BTZ black hole - Physical Review D · Sep 18, 2012
- How often does the Unruh-DeWitt detector click beyond four dimensions? - Journal of mathematical physics · Jun 8, 2012
- Reinstating the no-lose theorem for NMSSM Higgs discovery at the LHC - Journal of High Energy Physics

See more here

<https://scholar.google.com/citations?hl=en&user=OyS2UFYAAAAJ>

+ education

University of Nottingham
PhD Applied Mathematics 2013

Sept. 2009 to June 2013

University of Manchester
MPhys Physics 2007

Sept. 2003 to July 2007

MIT
edX Fundamentals of Statistics 2021

2021 to 2021

Coursera
Tensorflow developer professional certificate
Deep learning specialization
Machine learning

Udacity
Nanodegree Data Scientist
Nanodegree AI For Trading
Nanodegree Kotlin Android Developer

+ projects

Crypto Oracle

Exploring the use of Long-short term memory (LSTM) neural networks in predicting the price of the cryptocurrency Bitcoin and a frontend Django app to display in a dashboard.

Collaborative Filtering IBM Watson Articles

This project was part of the Data Science Nano-Degree from Udacity. The purpose of this project is to showcase an example of a recommender engine that utilizes different approaches (e.g. Knowledge Based, Content Based, and Collaborative Filtering Based) for recommendations. The approach utilized in the Collaborative Filtering approach here uses the Singular Value Decomposition (SVD) approach on simplified user-item interaction data.

Starbucks Advert Targeting

Train Logistic Regression and XGBoost models to make predictions about if a user would likely respond to a promotion.

Worldbank Flask App

This app uses Bootstrap, JQuery, Flask and Plotty to display some data from the Worldbank. It was completed as part of the Udacity Data-science Nanodegree

Covid 19 Analysis

Applying Data Science technique to explore COVID-19 data. The data will be obtained from Our World In Data, a scientific online publication whose research team is based at the University of Oxford and focuses on large global problems.

Car Detection with YOLO

Part of the Coursera Deep Learning Specialization

Jazz Improvisation with LSTMs

Part of the Coursera Deep Learning Specialization

+ skills

MACHINE LEARNING

Tensorflow

PyTorch

CNNs

LSTMs

NLP

Hypothesis Testing

Bayesian Inference

PCA

NumPy

Web scraping

Data wrangling

ETL Pipelines

NumPy

Scikit-Learn

Decision Trees

Random Forests

Funk SVD

Collaborative Filtering

XGBoost

SOFTWARE DEVELOPMENT

Python

Django

Django Rest Framework

Scrapy

Postgres

MongoDB

ORMs

REST APIs

PyTest

Unit Testing

Git

Kotlin

jQuery

HTML

CSS

Node.js

C++

MySQL

Redis

Celery

CLOUD AND DEVOPS

AWS RDS

AWS Elasticsearch

Elasticbeanstalk

Heroku

AWS S3

AWS Lambdas

Cloudfront

AWS Personalize

EC2

Linux

Docker

Ansible