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▪ Summary

I'm an experienced software developer, a back-end generalist specializing in Python.

I am both an individual contributor, and a technical lead of small, happy teams. I deliver business value by putting working features into production on a predictable schedule.

I'm test obsessed, having been reborn mid-career in a hardcore TDD/pairing environment.

I create mentoring relationships and high trust environments, believing in compassion and integrity. I forge great team spirit and raise morale by building strong, jovial relationships, taking pride in our humane treatment of one another, and in our raised expectations of what we become capable of as a group. Great teams create great individuals, not the other way around.

I've contributed patches to the CPython standard library (in unittest), created Colorama, (the world's 28th most popular Python library, at 3 million downloads/day). I've presented at international conferences like PyCon, am a nominated Fellow of the Python Software Foundation, and a continual open source contributor, eg:

- Some recent in-depth analysis and fixes for static web site generator Nikola.
- This page of ModernGL docs, which I created from scratch to help me understand a fiddly API concept, using plain language but without skirting details.

▪ Experience

Experience in Ubuntu Linux ecosystem and open source (10 years), GIS and spatial data (10 years), Finance (5 years), Online retail, e-commerce, ERP (2 years), Medical Trials (2 years).

Recently mostly **Python**, but dabble in other languages as required.
Web API design and implementation using **Django**, **Flask**, etc.
Relational storage such as **PostgreSQL**, MySQL or Oracle.
NoSQL such as RethinkDB, & MongoDB, indexed using Elasticsearch.
Progressive techniques like **TDD**, trunk based development, evidence based estimation.
Pairing and **mentorship** to raise skills & camaraderie within and between teams.
Hobbyist 2D and 3D graphics using OpenGL.
C# .Net for GIS and spatial data wrangling (3 years, long ago but fondly remembered).
C and C++ for GIS, digital signal processing, military radar research (8 years, also long ago).

▪ Current Role

Canonical
4 years,
to present.

Canonical creates Ubuntu Linux, the world's most popular server OS. I own the specs for several aspects of the Snap Store, an app store for Linux applications, for which I gather requirements, design & implement web APIs, and deploy & support production. The Store's APIs run at about 5k req/s, allowing authors to publish their applications as snaps, drive various human-visible "app store" applications, and allow reliable, secure updates for hundreds of millions of Ubuntu instances, as well as every other snap-enabled Linux device in the world, including SLA-managed fleets of embedded devices.

■ Previous Roles

IBM Cloud
2 years

Implemented security groups for IBM Cloud in Python & Golang, calling a hypervisor hosting API to set iptables for dynamic on-instance firewalling. On my own initiative I produced various presentations and training courses, initially for my own team, but later repeated for hundreds of developers across the division, especially for my suggested overhauls of Cloud's massive Python test suite.

Able.ag,
Antidote.me,
BATS Trading,
Rangespan
Contracts, 6 years.

Creating REST-like web APIs in Python, I often work with data scientists on ingestion pipelines to RDBMs or NoSQL datastores, sometimes indexed using Elasticsearch. I act as tech lead, or mentor in agile, design, or testing. eg. at Able.ag I relieved the company's technical founder of architectural, design and mentoring responsibilities.

Made.com
14 month contract.

Made was a furniture retailer struggling to model their logistics in Python Enterprise Resource Planning software. I took over a dysfunctional team, moribund from years of technical debt, e.g. nobody could remember when they had last performed the week-long manual process to release to production. I mentored the existing team, hired more developers, created a one-minute automated CI and deployment pipeline, instituted thorough testing and pre-merge reviews, and together we redesigned and reimplemented their system. This transformed operational reliability, and allowed the team to start delivering new business-critical features to production on a predictable schedule.

Resolver Systems
5 years.

Hardcore extreme programming startup, producing web and desktop software in Python and .Net IronPython for the financial and scientific sectors. We paired on all production code, using extremely thorough TDD, becoming regular conference speakers about our specialities of "London School" TDD, and the double-loop style. This was a fascinating and transformative job, you should ask me about it.

GIS consulting
3 years.

For **Peter Brett Associates** I single-handedly designed and coded *Habitat Capture*, a desktop GIS tool in .Net using ArcObjects for ArcMap. End users described the tool as "*about a billion times better*" than the last such tool they had commissioned. The resulting atlas compiled using the tool won the British Cartographic Society award.

At **Ordinance Survey** I did proof-of-concept SQL processing of *MasterMap*, the UK's definitive national geospatial dataset, optimizing spatial queries over terabyte datasets to run in hours instead of weeks.

For **ESRI UK** I created a .Net spatial data importer from AutoCAD, using topological operators to correctly create multi-part geometries for nested holes and islands.

■ Education

University of Durham, UK. BSc (Hons) 2:1 in Electronics (certified equivalent to 4 year US degree.)
English A-levels: Physics:A, Math:B, General:A. AS-level Electronics:A
English GCSE: Seven grade A, two grade B.