David Watson

Sagacious software engineer designing, developing, documenting, deploying, and distributing AI, API, HCI, and HPC stacks.

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Summary

A **computer science** award before music school vaulted me into a **computer programming** internship later. Designed data products, developed software from shrinkwrap to service, and deployed pipelines of DiY tools. Moved ideas to code, data to science, and markdown to markup documentation. My *realizing empathy* is *common sense* at the intersection of **human-computer sensemaking: art** *and* **science.**

Experience

Wyvern   2023-2024
Technologist (1099)   Nashua, NH

- Deprecated legacy code with Typescript Stack and Docker-Kubernetes deployment for 25% reduction in complexity

Freelance   2022
Software Design Engineer   Pittsburgh, PA

- Prototyped Personal Knowledge Management concept using GPT and Requests by building corpus from crawled frontier

Caterpillar   2021
Technical Consultant (1099)   Pittsburgh, PA

- Built ZCU-104 port of Terrain Visualization code using C++ GCC Linux enabling flags in GCC for 20%-40% improvement for demo

Carnegie Mellon University (Emerging Technology Center)   2020
Senior Member of Technical Staff   Pittsburgh, PA

- Artificial Intelligence (AI), Human Computer Interaction (HCI), High Performance Computing (HPC); details redacted

Caterpillar   2018-2020
Software Engineering Specialist (W-2)   Pittsburgh, PA

- Assembled Sensor Storage for Edge Network on Kubernetes to achieve Dev-Prod Parity using S3 as **protocol not product**, like Minio
- Collaborated with IT execs on planning and implications of cloud native storage burden to declarative vs fixed configuration

Rent Jungle (RainMaker (RealPage))   2016-2018
Senior Software Engineer   Pittsburgh, PA

- Led weekly retro resulting in better communication, velocity, and teamwork via agile methods like affinity diagrams and pairs work
- Crafted Scrapy crawler over Tor (python 3) to cover real estate frontier without detection on Django, PostgreSQL, and Kubernetes

Wellbridge Health   2015-2016
VP Product Development, IT Compliance Officer   Pittsburgh, PA

- Deprecated legacy App Store dependency using browser-based Ember SPA MVP designed and delivered in concert with MAYA Design
- Developed API backend on Python 3 - Django REST Framework, PostgreSQL emitting JSON API to Ember SPA on Aptible

Forever   2013-2014

Senior Software Developer   Pittsburgh, PA

- Prototyped full-stack (Bootstrap to Heroku) on Proxmox-Gitlab quickly on Python 3 before porting MVP from Python to Ruby on Rails

- Enabled the company to capture strong market traction in just a year after releasing 1.0 e-commerce platform finished at Neo

SMaSh - Brainstorm SMS Technologies (Mind Matrix)   2011 - 2012

Senior Engineer   Pittsburgh, PA

- Wrote conversational text systems (like twilio) in Python, PostgreSQL, Flask, and Requests on Fedora Linux

- Supported large SMS text campaigns from Pittsburgh Steelers to Miller-Coors

Wellspring   2010-2011

Software Development Manager   Pittsburgh, PA

- Led Sophia and Flintbox teams from 1M SLOC data center to automated SaaS virtualization of CI/CD, DevOps, and SRE code culture

- Prototyped systems using Capistrano (Ruby), Mechanize (Python), and Selenium with team of 4-7 software engineers

Applied Perception (Foster Miller (Qinetiq))   2008-2009

Project Engineer   Pittsburgh, PA

- Visualized XML sonar data in Python Beautiful Soup server and Microsoft Visual C++ GUI client on Windows for UUV deployments

- Ported Microsoft C# Windows GUI application to C++, Qt, Ubuntu Linux for OCU deployment of Talon Robot in EOD applications

NOMOS (North American Scientific, Best Medical)   2006-2007

UI Software Engineer   Pittsburgh, PA

- Coded C++ QA tests, maintained Perl code review system, CORVUS FDA-regulated product, team of 12, ~2M SLOC Mac

- Prototyped wireframes and rendered storyboards in C++/PyQt for adaptive 4D treatment planning with team of 4

MAYA Design (BCG)   2004-2006

Software Design Engineer   Pittsburgh, PA

- Deployed python web services emitting JSON to JDA clients on team of 4 developing A+ Schools, 3RC, DHS to win an award

- Demoed GUI lighting IoT Zigbee PoC in C#.net/COM/Visio on Windows for Phillips execs in 5 days sketch-to-code

Cobind   2003-2004

Cofounder   Pittsburgh, PA

- Built DiY Linux Tools with startup cofounder. Received worldwide press acclaim after Idea Foundry Fellowship enabled Desktop ISO

Education

Duquesne University (Core in Computer Science, Music Education, Technical Writing)   Bachelor of Science in Business Administration

Continuing Education   MIT Internet Application Programming RDBMS