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. *Realizing Empathy* remains key as users see GPT-LLM's go omnipresent sans human-computer-sensemaking.

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)

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