

# Dav(id|e|o)? Watson

The software is the message: retrospective prototyping is the future now.

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## Summary

A computer science award prior to music school promised a computer programming internship afterward. Devoted years to developing data products, structuring software as services, and pushing pipelines of tools. Moved idea to code, data to science, and modal to manual.

## Experience

### Wyvern

2023-2024

Technologist (1099)

Nashua, NH

Defined Roadmap for Mongo, MySQL, NGINX, and Angular Full Stack TypeScript, Docker & Kubernetes Container Deployment abroad

### Freelance

2022

Software Design Engineer

Pittsburgh, PA

- Prototyped Personal Knowledge Management concept around GPT and Requests, experimented with data in Rust/Polars, and more

### Caterpillar

2021

Technical Consultant (1099)

Pittsburgh, PA

- Xilinx ZCU-104 PYNQ is rare in that it exposes FPGA without embedded skills. Our port of Intel code gained 20%-50% time optimization using C++ GCC Linux by tweaking FPGA feature flags in GCC without computational complexity analysis or optimization

### 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 12 IT execs on planning and implications of hyperconverged infrastructure, cloud native storage
- Tested prototypes related to Git for Data (like Pachyderm or LakeFS) with partner in Golang, optimizing space for 5 V's of big data

### Rent Jungle (RainMaker (RealPage))

2016-2018

Senior Software Engineer

Pittsburgh, PA

- Led weekly retro resulting in better communication, velocity, and teamwork via nimble 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

- Built data analysis and tools from experiments in pandas and Python.
- 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

### Hire an Esquire (Major, Lindsey, and Africa)

2014

VP Engineering

Pittsburgh, PA

- Led a team of 6 through a lean Python 3 redesign and refactoring of the entire UI/UX from legacy MVP Django system
- Reduced daily production firefighting by using nimble methods, automated tests, CI/CD, code review and design review

## Experience (continued)

### 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

- Responsible for Sophia and Flintbox product development, deployment, and support
- Led team of 12 from slow legacy data center of more than 1M SLOC to fast, automated SaaS virtualization of CI/CD, DevOps, and SRE
- 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

- The idea arose from Bill Gurley's introduction of Software in a Box which became the Software Appliance 5 years later
- We borrowed cobind from DNA signifying *cooperative binding* - app/os tightly bound at build-time vs. loosely bound at run-time
- Collaborated on Linux Tools startup with cofounder and consultant. Received worldwide press after Idea Foundry Fellowship
- Progeny, Suse, RPath, and Timesys built linux online but few if any used browser as UI/UX. *Spins are in* - every distribution has them.

## Education

### Duquesne University

BSBA

Coursework

Computer Science, Music Education, Technical Writing

### Continued Education

Git Foundations @ Github, PyCon, RDBMS @ MIT

### Books - Passion

Crystal Clear, Finding Flow, Lean Software