

# David Watson

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## Summary

A flexible software developer-deployer-designer seeks consensus composing components front-to-back into finished, full-stack, shipping software. Costs have scaled down to ~nil as desktop, cloud and mobile matured. **Tamed complex ideas into solid tech by making sense of sketches and prototypes in user's hands** around the world until design-development-deployment phased productization.

## Experience

### Freelance 🌐

C++, Python 3, NodeJS, Typescript, Docker/Kubernetes Pittsburgh, PA

- Carnegie Mellon University Senior Member of Technical Staff, ETC
- Caterpillar Tech Consultant (1099) C++/GCC/Linux ZCU-104 PYNQ Terrain Vis.
- Wyvern Tech Consultant (1099) NodeJS, TypeScript, Docker(compose), k8s

### Caterpillar 🌐

Software Engineering Specialist Pittsburgh, PA

- Assembled Sensor Storage for Edge Network on Kubernetes using Python 3, Minio, and PostgreSQL with a team of 4 engineers
- Collaborated with senior IT staff of 12 over planning and long-term implications of hyperconverged infrastructure on cloud native for storage

### Rent Jungle (RainMaker (RealPage)) 🌐

Senior Software Engineer Pittsburgh, PA

- Led weekly retro to 2x better cadence, communication, velocity, and teamwork
- Crafted Scrapy (python 3) crawler on Django, PostgreSQL, k8s (Tor)

### Wellbridge Health 🌐

VP Product Development Pittsburgh, PA

- Led 4-person interdisciplinary design team through HIPAA-compliant EmberJS SPA MVP designed and delivered in collaboration with MAYA Design
- Developed REST API backend using Python 3/Django, DRF and PostgreSQL serving EmberJS SPA on Aptible with 4-person team

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

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 Franken-Django system for attorneys and agents
- Reduced daily production firefighting by more than 50% using nimble methods, automated tests, CI/CD, code review, and design review

### Forever 🌐

Senior Software Developer Pittsburgh, PA

- Prototyped full-stack front-end (Bootstrap) to back-end (Heroku) cloud proto of idea in 2 weeks on Python 3 before porting MVP Python -> Ruby on Rails
- Enabled the company to move from 0 sales to strong market traction in under a year after releasing 1.0 e-commerce platform finished @ Neo, Columbus, OH

## Worldview

### Linux

● ● ● ● ● ○

arch, debian, redhat, fedora, ubuntu

### MacOS

● ● ● ● ● ○

BSD

### Windows

● ● ● ● ○ ○

WSL 2

### Containers

Docker, Podman, LXC/LXD

● ● ● ● ● ○

### Virtualization

Proxmox, KVM

● ● ● ● ○ ○

### Private Cloud

Kubernetes, k3s, minikube

● ● ● ● ● ○

k8s, helm

### Public Cloud

AWS, GCP, Azure

● ● ● ● ○ ○

aws, gcp, azure

### Databases

MySQL, PostgreSQL, SQLite

● ● ● ● ○ ○

### Frameworks (Scaffolding)

Django, Flask

● ● ● ● ○ ○

RoR

## Programming Languages

### C++

Microsoft VS Code and GCC

● ● ● ● ○ ○

### Markup

HTML, CSS, MarkDown (MD)

● ● ● ● ○ ○

### Python (2.x and 3.x)

OO, functional, OOA, OOD

● ● ● ● ○ ○

### Ruby

● ● ● ● ○ ○

### Shell

bash, fish, zsh

● ● ● ● ○ ○

## Code and References

Available On Request

## Experience (continued)

### SMaSh - Brainstorm SMS Technologies (Mind Matrix) 🌐

2011 - 2012

Senior Engineer

Pittsburgh, PA

- Wrote conversational text systems (like twilio) in Python/PostgreSQL
- Supported large SMS text campaigns from Pittsburgh Steelers to Miller-Coors

### Wellspring Worldwide 🌐

2010-2011

Software Development Manager

Pittsburgh, PA

- Pioneered SRE culture from legacy data center to SaaS VMWare CI/CD modernization with a team of 12 Engineers
- Built DevOps systems using Capistrano (Ruby), Mechanize (Python), and Selenium with dev team of 2 Sys Ops Engineers and 4 Test Ops Engineers

### Applied Perception (Foster Miller (Qinetiq)) 🌐

2008-2009

Project Engineer

Pittsburgh, PA

- Visualized XML sonar data in python backend/C++ GUI application on Windows
- Ported Microsoft C#.net Windows GUI to C++/Qt/Linux for OCU deployment

### NOMOS (North American Scientific, Best Medical) 🌐

2006-2007

UI Software Engineer

Pittsburgh, PA

- Contributed C++ QA tests and code reviews to CORVUS FDA-regulated radiation oncology product with dev team of 12 and QA team of 4
- Prototyped wireframes and rendered storyboards in C++/Python2/Qt for adaptive 4D treatment planning with team of 4

### MAYA Design (BCG) 🌐

2004-2006

Software Design Engineer

Pittsburgh, PA

- Built python REST backends emitting JSON for consumption by AJAX frontends on dev team of 4 building [dhs.net](#), A+ Schools, 3RC websites
- Demoed GUI floor-plan Zigbee wireless lighting designer IoT PoC in C#.net/COM/Visio on Windows for Lutron/Phillips 1 week from designer sketch

### Cobind 🌐

2003-2004

Cofounder

Pittsburgh, PA

- Collaborated on Linux Tools startup with cofounder and consultant where we borrowed cobind concept signifying binding an app with its OS
- Received worldwide press from USA to Norway to Australia around Linux products after winning Idea Foundry Fellowship; wrote python2 ops code

## PersonaCulture

**Software is a cooperative binding game of develop-mentor peer-pairs trading roles.**

Just as singers scat and jazzers trade fours: Improvisation for Agile AI requires rules, invisible or not. Splitting the room to scale pizza box teams of 1, 2, 4, 8 human-computer-sensemaking peers isn't the answer. From human to computer, solo or group, cluster to cloud: peers and pairs are canonical in software from bits and bytes to social networks.

## Education

### Duquesne University 🌐

BS/BA

Business, Computer Science, Music

## Awards

### Top 100 Award

[Infoworld](#)

The MAYA Design team built AJAX, web components, and mapping APIs earlier than most. Team members launched [realizing empathy](#), a [music school](#), and more with help from like-minded MAYAns.

### Transformation Fellowship

[Idea Foundry](#)

[Open Source is a Social Contract](#)

[My First FOSS Contribution](#)

[My Pull Request on Github](#)

[My Reactive Resume/Docker](#)

[My Github Profile](#)

[My LinkedIn Profile](#)

[Beliefs Become Values](#)

[Crystal Clear \(Cockburn\)](#)

[Lean Software \(Ries\)](#)

[HC Sensemaking \(Pirulli\)](#)

[Literate Programming \(Knuth\)](#)

[Peopleware \(Demarco, Lister\)](#)

[Continuing Education](#)

[Git Foundations Workshop](#)

[RDBMS @ MIT](#)

[PyCon](#)

Design thinking matters.

## PersonaCulture continued

Rather rules vary to harmonize chord changes in real-time-v-run-time, as Joe Beda said about Kubernetes.

Splitting the room to scale pizza box teams of 1, 2, 4, 8 HCI peers isn't the answer. From human to computer, solo or section, peers and pairs are canonical in software from bits and bytes to strengths and weaknesses.