

[David Watson GitHub LinkedIn](#)

Summary & Skills

Help teams design, develop, and deploy software. Work has ranged from desktop to data center, mobile to cloud, startups to research labs. Comfortable working alone, in pairs or teams; private or shared office; hybrid or remote, home or coworking space. Began working remotely in 1999 - lived in Seattle, worked in Boston.

Operating Systems & Programming Languages

Productive working on Linux, MacOS, and Windows. Just need a Unix-like OS - Linux, MacOS (BSD) and Windows (WSL2) qualify.

Since 2005, worked mostly in Python, occasionally in C++ or Ruby. Prior to 2005 worked mostly in C++, occasionally in Perl, Python, or Ruby.

Containerization & Virtualization

Used containerization tools like Docker since 2015, Orchestration stacks like Kubernetes since 2017, and virtualization products like VMWare since 2000.

Databases & Methods

PostgreSQL has been my defacto database since I saw Michael Stonebraker speak at MIT a decade ago.

My teams have worked iteratively, from whiteboard sketch to provisional prototype, while reflecting on design, documenting, testing, shipping, and repeating the process weekly. The key is to recognize that automation works for efficient processes like CI/CD, but not for inefficient processes like reaching design or engineering consensus.

Experience

Software Engineering Specialist *Caterpillar* 2018-2020, 2021

- Reviewed and profiled C++ code for Autonomy Group's Remote Control Terrain Visualization
- Wrote company-wide directives on docker containers around build engineering and CI/CD on Azure

Member of Technical Staff *Carnegie Mellon University* 2020

- Contributed to Emerging Technology Center within Software Engineering Institute
- Worked on MLPerf (HPC), AI Task Force (MLOps), and ATAK (HCI)

Senior Software Developer *Realpage* 2016 - 2018

- Led weekly retrospectives to improve cadence, velocity, and teamwork
- Implemented crawler data pipeline using Python, Django, PostgreSQL, Docker, and Kubernetes on AWS

VP Product Development *Wellbridge Health* 2015 - 2016

- Led development team through replacement of HIPAA-compliant MVP with fresh design from MAYA
- Implemented REST API using Python/Django, DRF and PostgreSQL serving EmberJS SPA on Aptible

VP Engineering *Hire an Esquire* 2014

- Led engineering team to reduce technical debt, simplify, and skin MVP
- Refactored Python, Django, and PostgreSQL stack with *vanilla* Django and Bootstrap frontend

Senior Software Developer *Forever* 2013 - 2014

- Wrote Python, Flask, MongoDB proof-of-concept demonstrating photo sharing and storage on Heroku
- Productionized design using Ruby on Rails, PostgreSQL, AWS

Senior Engineer *Smash* 2011 - 2012

- Contributed python, postgresSQL code to internal systems supporting daily operations
- Designed and implemented conversational text systems (like twilio) and REST interfaces in python

Software Development Manager *Wellspring* 2010 - 2011

- Led devops from legacy data center to SaaS VMWare deployment
- Prototyped CI/CD approach using Capistrano (Ruby), Mechanize (Python), and Selenium

Project Engineer *Applied Perception* 2008-2009

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

UI Software Engineer *Nomos* 2006 - 2007

- Contributed C++ QA tests and code reviews to several FDA-regulated radiation oncology products
- Prototyped wireframes and rendered storyboards in C++/Qt for adaptive 4D treatment planning

Software Design Engineer *MAYA Design* 2004 - 2006

- Coded REST backends in python emitting JSON for consumption by proprietary AJAX frontends
- Implemented a Zigbee wireless lighting system in C# on Windows for Philips

Co-Founder *Cobind* 2003 - 2004

- Partnered on ideation, vision, and execution of custom Linux Tools startup
- Received wide press acclaim around custom Linux products after winning Idea Foundry Fellowship

Senior Software Engineer *MSA* 2000-2003

- Contributed code, data, and deployment before and after startup acquisition
- Implemented product import systems providing Excel VBA API from spreadsheet to database

Member of Technical Staff *CA* 1995-2000

- Coded C++ GUI code for Legent (Automation Point) and Platinum (Raveler), before acquisition by CA
- Contributed C++ code to CA-Unicenter products after CA acquisition

Programmer-Analyst *Mellon* 1992-1995

- Implemented C++ code to Executive Workbench asset management product
- Implemented multi-threaded, event-driven C++ GUI code on OS/2

Programmer-Analyst *USX* 1990-1992

- Automated data center operations in BASIC and C over HLLAPI on OS/2 from a networked PC

Education

- Bachelor of Science Concentration in Business, Computer Science, and Music *Duquesne University* 1991
- RDBMS and Internet Application Programming Phillip Greenspun and Michael Stonebraker *MIT* 2012

