

# David Watson

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## Objective

Ship usable software crafted by a caring community using lightweight methods and modern tools.

## Summary

Designed, developed, and deployed complete software products with R&D labs, software companies, and startups using skills acquired working in design, education, finance, healthcare, and medical devices.

## Skills

### Operating Systems & Programming Languages

Productive working on Linux, MacOS (BSD), and Windows (WSL2). Since 2005, wrote Python and shell scripts daily, C++ or Ruby occasionally. Prior to 2005 wrote C++ and shell scripts daily, Python or Perl occasionally.

### Markup & Markdown

Prefer markup, markdown, or plain text for a variety of technical documentation, including this resume.

### Databases

Used PostgreSQL since 2008 to blend relational and schemaless data at runtime. Used MySQL and related variants since 2010. Used redis, couchdb, and similar schemaless stores for a variety of lightweight jobs.

### Methods, DevOps, & Site Reliability Engineering

Tailored [lightweight methods](#) based on a synthesis of research from [Alistair Cockburn](#), [Allen Holub](#), and [Bonnitta Roy](#). Since 2010, used SRE and devops ideas and tools to move from fire-fighting ops to event-driven automation using IAC and CI/CD. Used Docker since 2015, Kubernetes since 2017, and VMWare since 2000.

## Experience

### Software Engineering Specialist [Caterpillar](#) 2018-2020, 2021

- Built, reviewed and profiled C++ code on Linux from Intel x86 to ARM for Autonomy Group
- Guided company-wide directives on docker container usage for 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 HPC, MLOps, and HCI in concert with National Robotics Engineering Center

### 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/AWS

### VP Product Development [Wellbridge Health](#) 2015 - 2016

- Led development team through HIPAA-compliant [MVP](#) with SPA UX 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 redesign and simplify [MVP](#)
- Refactored Python, Django, and PostgreSQL stack with vanilla Django and Bootstrap frontend

## 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

## Software Engineer [BrainStorm](#) 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
- Built CI/CD systems using Capistrano (Ruby), Mechanize (Python), and Selenium

## Project Engineer [Qinetiq](#) 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 CORVUS FDA-regulated radiation oncology product
- Prototyped wireframes and rendered storyboards in C++/Qt for adaptive 4D treatment planning

## Software Design Engineer [MAYA Design](#) 2004 - 2006

- Built python REST backends emitting JSON for consumption by AJAX frontends: [Infoworld Top 100](#)
- Demoed GUI floorplan wireless lighting designer in C#/Windows for Lutron 1 week from sketch

## 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

## Software Engineer [MSA](#) 2000-2003

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

## Member of Technical Staff [CA](#) 1995-2000

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

## Education

BS [Duquesne University](#) 1991