

Robin Winslow Morris

Software Engineering Director & Manager; MSc Interactive Systems Design

Over 18 years in software engineering, I've led the development of high performing full-stack web services and APIs across many languages and technologies including Python (Flask/Django), PostgreSQL, MongoDB and K8s.

As a manager, I've formed, led and grown efficient engineering teams with high retention and strong engineering culture. I've designed roles and team structures, improved team interactions, resolved conflicts and worked closely with stakeholders and product owners at all levels. I've evolved team standards and implemented continuous delivery pipelines.

I'm an active open-source contributor, publishing many open source projects and modules. I've mentored engineers, given many presentations at conferences and international company events, an academic journal paper and written many blog posts.

Experience

Since 11/2023 **Associate director for software engineering, Oxford Nanopore Technologies (ONT)**

- Led team of 4 developers, driving efficient company-wide manufacturing & telemetry systems
- Redefined stakeholder interactions & agile processes to double team efficiency
- Optimised the relationship with the core systems team through platform engineering
- Pioneered & architected a Kubernetes-based blueprint pipeline for ONT services
- Defined & evolved ONT's secure engineering practices for ISO 27001 security certification
- Mentored engineers and leaders across the Operational Software department
- Acting-director of Operational Software, Aug-Nov 2024, leading 3 teams & 12 engineers (upcoming)

06/2022 to 06/2023 **Head web architect, Canonical (makers of Ubuntu)**

- Systems architect for the web engineering department
- Designed guiding templates for Python (Flask & Django) sites & APIs, React and static sites
- Mentored the 30 developers across the department
- Worked closely with stakeholders and product owners at all levels of the company
- Created and led a new platform engineering squad responsible for central modules, development and devops tooling to support our 30+ website and API projects
- Guided eight development squads, leading key architectural decisions across the whole department
- Shifted responsibilities left, and improved team efficiency through automation

2017 to 2022 **Software engineering manager & team leader, Canonical**

- 8 direct reports with record retention & progression across UK, Canada, Poland and Spain
- Designed agile processes & team architectures
- Led team standards for communication, simplicity, testing, usability, CD, accessibility & sustainability
- Presented features and roadmaps at international company events
- Built team culture through presenting, writing, mentoring and leading by example
- Open source & ethics thought-leader, practised and advocated for respectful leadership principles
- Managed relationships and resolved conflicts with senior stakeholders

2014 to 2017 **Lead developer, Canonical**

- Transformed hosting for ubuntu.com (up to 10k hits/sec), eliminating regular outages
- Implemented Kubernetes-based deployment pipeline for 30+ websites, tripling deployment frequency
- Transitioned the team to GitHub, and designed project structure standards
- Took a leading role in team structure and practices

2012 to 2014 **Lead developer, Hillarys**

Led development on 4 e-commerce sites including web-blinds.com in PHP (Magento and MySQL) and C# (Umbraco and MSSQL Server), and led the team to double in size.

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- 2010 to 2012 **Full-stack developer, *IPC Media***
Key member of a 4-dev agile squad for 4 magazine sites including horse and hound and country life, within a department of 50 devs.
- 2005 to 2010 **Consultant developer, *Energise, Mokoro and Tamar***
Year in Industry at Tamar as a Perl & CSS dev. Then dev, software and visual design consultant work for Tamar, Mokoro and Energise.

Notable projects

Projects where I had a leading role in both design and implementation:

Software design

- 2019 to 2023 **The Ubuntu security API & search, (4 million hits/week)**
Ubuntu's official public API for CVEs and Ubuntu security notices. Central to Ubuntu's security team & community, essential to Ubuntu Pro, & used by security researchers globally. Ubuntu security search supports the 10s of millions of Ubuntu users in querying the complex matrix of vulnerability information for all Ubuntu packages broken down by exact OS version and patch progress.
- 2015 **Assets server, (>10k hits/sec)**
A cache-optimised, high-load, REST based server for hosting images and files for all sites. Serves gigabytes of assets within <100ms for all of Canonical's digital services for 8 years with minimal changes without no outages.
- 2015 to 2022 **Modular architecture templates**
Architected the model structures for our 30+ Flask, Django, React and static sites, including designing our branching & testing models, GitOps CI configuration & suite of Python & Node modules.
- 2015 to 2021 **Cross-team API model**
Starting with snapcraft.io, I based the model for Web Engineering to interact with core engineering teams through a contract-based API relationship model, following Domain-Driven Design principles.
- 2015 to 2020 **Vanilla Sass design system**
A central styling framework, written in SASS, for unifying design components, branding and styling code standards across the company's many branding areas. I helped design the technical architecture as well as the versioning, CD, update and collaboration models.

Platform engineering & DevOps

- 2019 to 2023 **Central hosting platform, (2k hits/sec)**
Advocated for, designed & implemented a Kubernetes-based reliable high-capacity platform with an NGINX-cache frontend for Canonical's 30+ websites and services including ubuntu.com.
- 2018 to 2023 **Website continuous delivery pipeline**
Automatic continuous deployments with GitOps and Kubernetes to release changes to 30+ sites & APIs within 5 minutes of merges to main.
- 2017 to 2023 **PR demo & integration system**
Automatic, unique, reliable demo for every pull request, deployed into Kubernetes with close parity with production. Provides a full integration test and enables quick, reliable staging, testing, QA and stakeholder review.
- 2015 to 2021 **Dotrun local development system**
A container-based tool to unify and simplify local development of our 100+ projects on both macOS and Linux systems.

Leadership & team building

- 2022 to 2023 **Flask, React and algorithmic hiring assessments**
Carefully designed custom early-stage assessments to optimise testing relevant skills and make optimal use of the time of both team members and candidates.
- 2017 to 2021 **Masterclasses**
Delivered and led fortnightly department-wide skills-sharing presentations on diverse topics.

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2019 to 2021 **Team practices**

A website, repository and system for discussing and agreeing on formal team standards and principles.
A bedrock of department culture and discipline.

Professional training

Management courses

January 2024 **Manager Mastery: Essential Manager Skills (2-day course)**, *Disruptive Training*, UK
On-site dedicated management training at ONT: Motivating reports; Optimising team productivity; Representing the company

April 2020 **LeadDev Live**, *LeadDev*, UK

2 days of talks from leaders across the industry on inclusion, belonging & motivation through 1:1s; empathetic management of redundancies & financial uncertainty; hero culture; estimating work better; professional networking; simplifying code & legacy code

Technical courses

April 2024 **Containers, ECS & EKS (Kubernetes) immersion day**, *Amazon*, UK

Exploration of the capabilities, strengths and weaknesses of Amazon's Elastic Container Service and Elastic Kubernetes Service

2016 **Test- and behaviour-driven development (PHP)**, *ibuildings*, UK

2-day course on the deep theory and discipline of test and behaviour driven development

Open source contributions

I am actively involved in the open source community for two decades. I've collaborated on improvements in many projects, including [Ubuntu](#), [Python](#), [Gunicorn](#), [Backstage](#), [NGINX](#), [Kubernetes](#), [Discourse](#), [Pipenv](#), [poetry](#), [node-sass](#), [moderncv](#), [sass-lint](#), [git-extras](#), [Sphinx](#), [Renovate](#), [Lando](#), [docker-nginx](#), [Kubernetes' NGINX Ingress controller](#), [MicroK8S](#), [LXD](#), [Snapcraft](#), [snapd](#), [Juju](#), [Mojo](#), [Anbox-cloud](#), [Talisker](#), [discli](#), [Vanilla Framework](#), [dotrun](#), [ubuntu.com](#), [snapcraft.io](#), [canonical.com](#)

I have created [32 Python packages](#), [23 NPM packages](#) and [138 GitHub repositories](#), including [Vanilla Framework](#), [dotrun](#) and [robinwinslow.uk](#)

Education

2007 to 2010 **MSc Interactive Systems Design**, *Nottingham*, UK

- Learned to study and design solutions for large interacting socio-technical systems
- Studied cognitive systems interaction, usability and mobile design principles
- How to conduct and learn from social and user studies
- Published a journal paper on micro-generation schemes

2004 to 2007 **BSc Computer Science**, *Nottingham*, UK

Functional programming, set theory, formal logic, database normalisation, big O, algorithms & data structures, OOP, UNIX, security principles, Java, Haskell, C++ and project management.

Publishing & presenting

February 2024 **Software team performance**

Presentation at Software Engineering Day at ONT

February 2024 **Continuous delivery at Canonical**

Presentation at Software Engineering Day at ONT

April 2022 **Open source and its social impact**

Presentation to the department with Anthony Dillon, published on YouTube

2018 to 2023 **Presented 10 masterclasses to the department**

On many topics including: [Advanced Git usage](#), [effective testing](#), [readable code](#), [regex](#), systems design, writing and platform engineering

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- 2014 to 2021 **22 posts on the Ubuntu blog**
About our working practices & tools, configuring NGINX, running Ubuntu and many other topics
- 2012 to 2023 **Over 100 personal blog posts**
On robinwinslow.uk
- 2011 to 2021 **100s technical answers and questions**
Across [StackExchange](https://stackoverflow.com) sites
- 2012 **Micro-generation schemes: user behaviours and attitudes towards energy consumption**
Journal paper in [Ergonomics](#)
- 2012 **HTML5 and how to use it**
Presentation to IPC Media's digital department
- 2011 **Let's talk about CSS**
Presentation to IPC Media's digital department

Skills

- Languages & frameworks Python ([Flask](#), [Django](#)), PHP ([Symfony](#)), C# ([Umbraco](#)), Bash, JavaScript ([React](#), [Backbone](#), [jQuery](#)), Typescript, Node ([Express](#)), Perl ([Catalyst](#))
- Software & platforms Kubernetes, PostgreSQL, Redis, MongoDB, [NGINX](#), Apache, Jenkins, [Sentry](#), [Graylog](#), [Grafana](#), [ChatGPT](#), [Git](#), [GitHub Actions](#), [Openstack](#), [AWS](#), [GCP](#)
- Theory & best practice No-blame culture, [Respectful leadership](#), [Behaviour-driven development](#), [Minimum-viable product](#), [Continuous delivery](#), [KISS](#), [YAGNI](#), progressive design, platform engineering, the 12 factor app, progressive web apps

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