

# Robin Winslow Morris

## *Engineering 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. I've evolved team standards and implemented continuous delivery pipelines.

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

### Experience

- 11/2023 to present **Associate Director, operational software engineering, Oxford Nanopore Technologies**
- Acting-head of Operational Software Engineering department for 3 months during the department head's sabbatical
  - Lead the Manufacturing Tracking team, optimising manufacturing execution across ONT
  - Doubled team efficiency and delivery, with completely redesigned agile processes and practices
  - Designed and led new EKS-based containerisation architecture for the business-critical telemetry system
  - Mentor engineers and prospective leaders across the Operational Software Engineering department
  - Drove departmental improvements towards certification for the ISO 27001 security audit
  - Central participant in ONT's management and mentoring programmes
- 06/2022 to 06/2023 **Head web architect, Canonical**
- 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 **Manager and 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
  - Transformed continuous deployment pipeline for 30+ sites with K8s
  - Transitioned the team to GitHub, and designed project structure standards
  - Took a leading role in team structure and practices

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- 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.
- 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 **Lead 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 Enterprise.

## Notable projects

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

### Software design

- 2019 to 2021 **Security API, ( 100k hits/day)**  
Ubuntu's official public API for CVEs and Ubuntu security notices for security researchers across the world. Updated by Canonical's security team, used for Ubuntu users to query a 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**
- 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.
- 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.

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2017 to 2021 **Masterclasses**

Delivered and led fortnightly department-wide skills-sharing presentations on diverse topics.

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.

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## 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.

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## Publishing & presenting

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

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](#) 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

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## Open source contributions

[32 Python packages](#) | [23 NPM packages](#) | [138 GitHub repositories](#) | [151 public gists](#)

As well as all Canonical's websites, services and supporting modules and tools, I've contributed to many OSS projects across Canonical including [MicroK8S](#), [LXD](#), [Snapcraft](#), [snapd](#), [Juju](#) (including various Charms), [Mojo](#), [Anbox-cloud](#), [Talisker](#) (a [Gunicorn](#) wrapper) and [discli](#) (a [Discourse](#) API client).

Beyond Canonical, I've directly contributed code to many projects including [docker-nginx](#), [Kubernetes' NGINX Ingress controller](#), [Pipenv](#), [poetry](#), [node-sass](#), [sass-lint](#), [git-extras](#), [Sphinx](#), [Renovate](#) and [Lando](#), and helped improve many more projects through community suggestions and discussions, including [Kubernetes](#), [NGINX](#), [Python](#) and [Discourse](#).

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## 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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