

Justin Chong

TECHNICAL LEAD | BACKEND, PLATFORM, AI & DATA ENGINEERING

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Technical Lead with end-to-end ownership of secure, data-intensive backend platforms across regulated NHS environments and consumer-scale applications. Led a five-person engineering team and delivered software products, API, data integration and deployment solutions across five NHS sites using physical on-premises infrastructure, Linux Debian VMs and GCP-hosted cloud VMs. Experienced in architecture, devops, production operations, security controls, system reliability, service delivery, product and team management.

EXPERIENCE

Independent Contract Work

Selected Software & AI Contracted Work

2020 - present

- Delivered independent software and AI engagements, working directly with clients and stakeholders to define requirements, design solutions and implement production features across backend, web, mobile and data-intensive systems.
- Selected work included backend services, administrative workflows and mobile app for a children's mental-health platform, PCA-based 3D visual analytics system with performance-sensitive PyTorch and C++ components.

Aival

London, UK

Founding Engineer, Technical Lead, Full-Stack & DevOps

2021 - 2025

- Led a five-person engineering team and owned end-to-end product, platform and client delivery for an AI validation and monitoring suite, spanning architecture, implementation, CI/CD, testing, production rollout, release management & support.
- Translated NHS clinical, operational and regulatory requirements into solution architectures, clinical data models, integration designs, technical specifications, roadmaps and delivery plans; established engineering standards across hiring, onboarding, code review, testing and releases.
- Designed REST services and DICOM ingestion and analytics workflows supporting up to 1 million chest X-rays per month and 20k CTAs per site per month (~2 TB), together with radiology reports, follow-ups and supplementary clinical metadata.
- Architected and delivered integrations across five NHS sites using physical on-premises servers, hospital-managed Linux VMs and GCP-hosted cloud VMs; led infrastructure planning, procurement, hardening, backup and recovery, data migration, onsite delivery, remote upgrades and production support.
- Implemented & certified ISO 27001 for security, quality and operational controls with GDPR, DTAC and HIPAA requirements, including access control, server hardening, secure connectivity, release governance & operational support.

Emotech

London, UK

Full-Stack Software Engineer

2020

- Built Java/Spring Boot REST and OAuth services and client-facing features for multi-region B2C language-learning deployments, integrating NLP and video-recognition components.
- Tested scalability and operational reliability for trial launches exceeding 20,000 concurrent users across PostgreSQL, MongoDB, Redis, RabbitMQ, Jenkins and Kubernetes.

Netcraft

London, UK

Computer Scientist (Placement)

2019

- Built core components for an autonomous phishing-classification platform using Docker Swarm, Puppeteer, Logstash, Kibana and React, including the malicious javascript detection module and phishing OCR brand recognition model.
- Reduced classifier and image-processing memory use by 13x and 7x, respectively, while improving robustness against overlays, OCR content, dynamic HTML and evolving phishing patterns.

TECHNICAL SKILLS

Backend & Languages: Java, Kotlin, Spring Boot, Python, Node.js, JavaScript, TypeScript, C++, REST APIs, OAuth, Linux, web security, FastAPI, Networking

Data & Integration: SQL, PostgreSQL, SQLite, MongoDB, Redis, RabbitMQ, DICOM, Pandas, NumPy, clinical data modelling

Cloud, DevOps & Reliability: GCP, Vercel, Docker, Kubernetes, Jenkins, Github/Gitlab Runner, CI/CD, Cloudflare Access, NAT, Logstash, Kibana

AI & Regulated Delivery: PyTorch, AI validation/monitoring, active learning, explainability; ISO 27001, GDPR, DTAC, HIPAA

Product & Project Management: Microsoft Intune, Jira, Linear, Kanban, Sprint planning, Team retrospectives, Recruitment

EDUCATION & RESEARCH

Imperial College London

2017 - 2021

Master of Engineering in Computing (Artificial Intelligence)

London, UK

First Class Honours

Research: Published 3 papers on active learning, explainability and medical AI | Google Scholar: [ZB1YY-cAAAAJ](https://scholar.google.com/citations?user=ZB1YY-cAAAAJ)