



JAMES HARRIS

SENIOR SOFTWARE ENGINEER

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PROFILE

I'm a software engineer with **over 20 years experience** designing and building backend systems.

My experience spans **startups, small businesses, and larger organisations**. I have a proven track record of **team and project leadership**, taking ownership of architecture, process, and product direction. I seek environments where I can **guide platform direction and engineering practices**, preferring technical leadership over pure people management.

I'm the author of Dogma, an open-source ecosystem for building **distributed event-driven applications in Go**. This project reflects my focus on building maintainable systems with clear architectural boundaries and a positive developer experience.

I care deeply about how software is built, both for the practical benefits to the team, and for the love of the craft itself.

SKILLS + EXPERIENCE

SYSTEMS ENGINEERING

Engineering of distributed and centralized systems with an emphasis on clarity, modularity, and long-term maintainability.

- message-based systems
- event-sourcing
- real-time & collaborative domains
- domain-driven design (DDD) & CQRS
- pragmatic microservices
- unit, integration & contract testing

GO NODE.JS PHP GRPC OPENAPI
WEBSOCKETS SSE ADRS

TOOLING & AUTOMATION

Development of pipelines supporting fast-feedback, repeatable builds, and low-friction deployments.

- CI/CD pipelines
- zero-downtime deployments
- dev/prod parity strategies
- custom command-line tooling

GIT GITHUB ACTIONS + API SLACK API
ARGO CD DOCKER HELM MAKE BASH

DATABASES & STORAGE

Selection and integration of storage solutions to meet varying performance, durability, modelling and access requirements.

- relational & document modelling
- index & query optimisation
- event retention strategies
- read-model derivation

POSTGRESQL MYSQL REDIS DYNAMODB
SQLITE BBOLT S3

PLATFORM & INFRASTRUCTURE

Design and operation of development and production infrastructure, valuing operability and developer experience.

- infrastructure as code (IaC) & GitOps
- internal developer portals
- secrets management
- custom Kubernetes controllers

GIT KUBERNETES AWS KARPENTER
TERRAFORM CROSSPLANE KCL

IDENTITY & ACCESS CONTROL

Implementation of authentication, identity, and access control systems across cloud, platform, and application boundaries.

- identity provider & SSO integration
- token-based authentication flows
- password storage & validation
- symmetric & asymmetric crypto

AWS IAM + SSO OKTA OAUTH OIDC SAML
JOSE/JWT K8S RBAC BCrypt

OBSERVABILITY & OPERATIONS

Instrumentation and operational readiness practices to improve visibility, reliability, and response across distributed systems.

- structured logging & trace correlation
- metric collection
- automated health checks
- incident response & post-mortems

OPENTELEMETRY AWS X-RAY PROMETHEUS

Additional experience includes C++, HTML/CSS, Python and C# and limited commercial experience with embedded systems and electronics hardware design.

EDUCATION

DIPLOMA OF INFORMATION TECHNOLOGY SOFTWARE DEVELOPMENT

QANTM COLLEGE (SAE), BRISBANE • 2001

CERTIFICATE III IN ELECTRONICS

SOUTH BANK TAFE, BRISBANE • 1998 — 1999

BETSECURE

IGAMING GEOLOCATION, COMPLIANCE & FRAUD PREVENTION

PRINCIPAL SOFTWARE ENGINEER

NOV 2021 — PRESENT • 3.5 YEARS • FULLY REMOTE

Shared **responsibility for technical and product leadership** across a startup delivering “Compliance as a Service” to online gambling operators. The platform enforced state-specific geolocation and regulatory controls as required by United States legislation. BetSecure shares a parent company with Codeworx, my previous employer.

Recruited engineers to form cross-functional teams with frontend, backend, mobile, and DevOps skillsets. Established remote mob programming as a core practice. Eliminated pull requests and asynchronous reviews in favour of continuous collaboration, reducing overhead and context switching.

Directed the architecture and implementation of backend systems, including geolocation services, API gateways, and compliance logic. Services were built in Go using an **event-sourced architecture, following CQRS and domain-driven design principles**.

- mentored engineers in distributed design, event-sourcing, read-model projection, and CQRS
- guided architecture across multiple autonomous teams
- interpreted regulatory documents to ensure systems adhere to state-specific compliance rules
- built a Kubernetes-based developer platform with on-demand environments provisioned via Slack
- developed tools for in-cluster development using real domains, certificates and cloud services
- led ongoing development of Dogma in collaboration with Codeworx engineers.

GO GRPC DDD CQRS OPENAPI AWS POSTGRESQL POSTGIS GEOJSON KUBERNETES TELEPRESENCE TERRAFORM HELM ARGO CD

My role at BetSecure concludes on 1st August 2025 due to the parent company winding down its Australian operations for strategic reasons unrelated to team performance or product quality.

CODEWORX

ONLINE POKER & SPORTS BETTING

SOFTWARE DEVELOPMENT MANAGER

DEC 2008 — NOV 2021 • 13 YEARS • IN-OFFICE / HYBRID-REMOTE

Held **long-term responsibility for the architecture, quality, and continuity** of backend systems supporting the company's online poker and sports betting platforms. **Led the team through a major strategic shift** from a large PHP monolith to a **distributed architecture in Go**, built on CQRS and event-sourcing principles.

Recruited and mentored engineers, established engineering practices, and provided **hands-on technical leadership** as the company shifted from product ownership to delivering software for affiliated businesses.

- introduced unit testing, automated builds, and code coverage reporting to PHP codebases
- advocated for company-wide move from Subversion to Git, improving branching performance and developer experience
- led early adoption of Composer to modularise shared code
- authored Recoil, an asynchronous coroutine library for PHP 7
- championed adoption of Go to overcome limitations in PHP's concurrency and process model
- developed Dogma, an opinionated event-sourcing framework for Go

GO PHP COMPOSER PHPUNIT POSTGRESQL COUCHDB GRPC DOCKER BAMBOO

SOFTWARE DEVELOPER

JUL 2006 — DEC 2008 • 2.5 YEARS • IN-OFFICE

Member of a team of PHP developers responsible for the backoffice and player-facing features of the company's online poker and casino gaming platform, which powered *Poker.com* during the height of poker's global popularity.

Fostered cross-team collaboration with the engineers responsible for the poker gameplay components, enabling deeper integration with backoffice systems. This empowered operations staff to configure complex gameplay and promotional aspects without developer involvement, **significantly reducing toil and increasing operational flexibility**.

- designed and optimized schemas and queries across a multi-terabyte MySQL replication set
- built highly-tuned materialized views using triggers and stored procedures
- addressed UX challenges posed by the eventually consistent nature of replicated systems

PHP HTML + CSS MYSQL REST SOAP LINUX FREEBSD SVN

MANAGED SOLUTIONS

IT SERVICES & INTERNET SERVICE PROVIDER

SOFTWARE DEVELOPER

FEB 2005 — JUL 2006 • 1.5 YEARS • IN-OFFICE

Streamlined daily operations for field technicians by **developing an on-site job management system** incorporating scheduling, time tracking, and invoicing features across desktop and early smartphone devices.

Worked largely independently with technical guidance from a skilled Python developer. Collaborated with the general manager, acting as product owner, to keep features aligned with established business processes.

- quickly learned Python and its web-development ecosystem
- applied prior MySQL experience to PostgreSQL schema & query design
- developed branded mini-sites for conference attendee & speaker registration

PYTHON PHP HTML + CSS POSTGRESQL LINUX SVN

OZ SERVERS

WEB HOSTING & DEDICATED SERVERS

LEAD SOFTWARE DEVELOPER

2002 — FEB 2005 • 3.5 YEARS • IN-OFFICE

Enabled the company's expansion into dedicated hosting and co-location by **leading the development of a comprehensive business operations platform** that supported all aspects of daily operations, including ordering, billing, issue tracking, DNS zone management, network automation, and asset tracking.

- implemented a query caching layer to improve responsiveness on commodity hardware
- developed strategies to ensure data integrity in MySQL v3, which lacked transactional support
- integrated with external systems such as routers and hardware power control devices

PHP HTML + CSS MYSQL C++ LINUX DNS SSL/TLS IPTABLES DHCP

The platform remained in active use for many years, supporting business operations until the company's acquisition by Servers Australia in 2017.

OPEN SOURCE

DOGMA

MESSAGE-BASED ECOSYSTEM FOR GO

Dogma is a comprehensive set of tools for building message-based applications in Go.

 dogmatiq/dogma

RECOIL

ASYNCHRONOUS COROUTINES FOR PHP 7

Recoil provides a generator-based syntax for expressing asynchronous logic in a familiar imperative manner.

 recoilphp/recoil

GRIT

CLI FOR MANAGEMENT OF GIT CLONES

Grit creates and indexes your local Git clones, with fast directory switching & autocomplete.

 jmalloc/grit

REFERENCES

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