

# David Hall

## Technical Lead, Code Enthusiast

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### PROFILE

I am a highly professional technology leader with a considerable track record in getting software delivered, with over ten years of experience designing, developing, testing and maintaining software for various architectures. I have worked in numerous specifications, planning, development, leading, testing, deployment, and support roles.

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### OVERVIEW

- I am an experienced technical leader who leads from the front, with empathy and communication skills to help fellow members of my team.
  - Coaching & mentoring members of my teams, sharing both technical and domain knowledge to help solve problems.
  - I promote a culture of failing fast, encouraging ownership, facilitating collaboration within and across teams.
  - I have a considerable breadth and depth of technology experience, and I can work at both a platform architecture level and in a hands-on, “roll my sleeves” up way getting into the details of the code with my team.
  - Delegating tasks and responsibilities to scale development teams.
  - I believe that there is always more to learn about a given subject regardless of how long I have studied it for.
  - Happiest when learning something new.
  - I am a tenacious problem solver, and I enjoy taking complicated problems and boiling them down into their constituent parts to produce simple solutions.
  - I believe that simple is better than complex, but complex is better than complicated.
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### Technical

1. **Python** (SQLAlchemy, Alembic, celery, pytest, Asyncio, Asyncpg, uvicorn, gunicorn, RabbitMQ, Kafka)
2. **Node.js** (express, webpack, ES6, knex, passport, babel)
3. **React / Redux**

4. PostgreSQL / RDS
5. Redis
6. Kafka
7. RabbitMQ
8. LUA
9. C

#### Other knowledge

1. Git
2. Docker
3. Linux
4. TDD
5. BDD
6. Micro services
7. Monoliths
8. MVC
9. Design by contracts
10. Finite state machines
11. SOLID
12. Design Patterns
13. AWS
14. K6

#### Exposure & learning

1. Rust
2. Scala
3. ECS
4. AWS
5. TensorFlow
6. Kubernetes

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#### Experience

##### **Blackcow Technology** : *Technical Lead / Head of tech* **2018 - Present**

I received a promotion to Technical Lead, having taken technical ownership of the implementation of each product at Blackcow. Reporting directly to the CEO, I worked to rapidly expand the product line up from only an RGS also to include:

- **Jackpots** (Progressive, must drop, timed). A high performance ledger system for managing multiple funds where by a player could contribute and win based on a game event a jackpot. Tech stack in use:
  - python (3.9)

- **PostgreSQL** (Heavy usage of plsql functions and ACID)
  - **SQLAlchemy 1.4+ & Alembic**
  - **Asyncpg**
  - **Redis**
  - **FastAPI**
  - **Asyncio**
  - **Websockets**
- **Shared draw** A highly scalable multiplayer service for developing live multiplayer table games.
  - **Freebets** Ability for operators of the RGS to construct promotional campaigns.

### Notable Achievements & Responsibilities

- mentored & supported my fellow teammates to help them gain both technical and domain knowledge of all products.
- Introduced the "shape up" methodology for planning and developing features, leading to more projects delivered on time.
- Identified bottlenecks in our core RGS product and design solutions to solve these bottlenecks, which led to a tripling in performance to handle over **800 bets per second**.
- Lead third-party integrations for customers using the RGS software and advised on implementation as well as design.
- Developed custom tools to report on millions of gameplays for customers.
- Designed & helped implement several casino game engines for Draftkings such as **Baccarat**, **Craps**, **Blackjack**, and **Keno** that have had 100s of millions of plays in the USA market. Liaised with development and product teams to add additional features to the platform to ensure that their product launches were a success.
- Ensured that technical debt is managed effectively and pushed to allocate time for refactoring.

**Blackcow Technology** : *Full stack Developer* **Sept 2016 - Sept 2018** I worked as part of a small team bringing gaming services to businesses of all sizes. I worked closely with customers to provide support and continued upgrades completing work on both the frontend stack (node.js, React, Redux and bootstrap) and the backend stack (python, pyramid and PostgreSQL). My biggest successes were refactoring the existing code base to make it easier to maintain, increasing code coverage for testing and improving the performance of the core RGS product to accept 50% more requests per second on comparable hardware reducing customer costs.

**Kashing! Ltd.** : *Full-stack Developer* **Sept 2016 - Sept 2018** I led a small team of developers that designed software solutions to facilitate payments for businesses, from micro-merchants to larger multi-national companies. I was a

key member of the team that enabled this start-up to grow and meet business goals.

**Security Icon : *Full-stack Developer* Jan 2010 - Sept 2014** I worked as part of a small team of developers to bring bespoke enterprise-level products to global customers. Responsibilities included; reporting project statuses to managers, providing technical support to clients and writing documentation for each project. My responsibilities quickly expanded, which resulted in a promotion.