

Thomas Stirling - Backend Software Engineer

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Summary

Backend Software Engineer with 6+ years of experience designing and building distributed, event-driven, high-throughput systems across fintech, gambling, aerospace and security. Experienced in leading the architecture and delivery of scalable, business-critical platforms through cross-team collaboration and a focus on measurable business impact.

Experience

Zopa Bank

Backend Software Engineer, Collections (October 2025 - Present)

- Led the architecture and technical delivery of a new Payment Links integration, delivering Zopa's first integration with payment provider Rvvup to enable a significantly improved loan and arrears repayment journey. Defined the technical roadmap, breaking delivery into an MVP followed by incremental phases, creating epics and workstreams, and coordinating implementation across engineering teams while adapting to evolving business requirements.
- Designed a scalable shared payment service for adoption across multiple engineering domains, prioritising extensibility and maintainability. Collaborated with Rvvup and internal engineering teams to establish reusable integration patterns supporting future payment capabilities, with projected annual arrears recoveries in the hundreds of thousands of pounds.
- Designed the initial event-driven architecture for a new customer communications capability, establishing the project's technical foundation. Designed and implemented a shared gateway providing a standardised integration layer for the mobile application and authored Architectural Decision Records to guide implementation across engineering teams.
- Developing and evolving event-driven Kotlin backend services automating regulated customer communications, collections workflows and payment processing across loans and credit cards. (Kotlin, Ktor, Kafka, PostgreSQL)

Sky Betting & Gaming (Flutter Entertainment)

Backend Software Engineer, Real-Time Events Processing (August 2023 - September 2025)

- Primary contributor to the Bet Mutation Eligibility service, leveraging a scalable hexagonal architecture to deliver a complete rewrite of Sky Bet's AccaFreeze feature. Designed a high-throughput concurrent processing pipeline using sharded executors to consume multiple Kafka streams in parallel while preserving per-key ordering, backed by Cassandra and complex bet- and leg-level processing logic. (Java 21, Kafka, Cassandra)
- Contributed to a new Horse Racing Metadata service that efficiently consumes, transforms, enriches, and publishes real-time horse racing data for consumers. Implemented a high-performance message stream leveraging Kafka as a distributed messaging system, using a hash store for efficient update checks. (Kotlin, Spring Boot, Kafka)
- Maintained high-traffic real-time event-processing systems (thousands of req/s) and participated in on-call rotation across a large distributed stack. (Kotlin, Spring Boot, TypeScript (Node), Kubernetes, MongoDB)
- Contributed to a company-wide transition to new services, leading integration into a new team within Paddy Power and Betfair's sportsbook. Thoroughly learned new services to onboard remaining team members and streamline transitions.

Ascent

Full-Stack Software Engineer, G4S Project (August 2022 - July 2023)

- Developed core functionality for a G4S security platform across the Identities, Alarms and Core modules, collaborating within an international engineering team to deliver a secure identity and building access management system. (C#, .NET)

Airbus Defence & Space

Graduate Software & Data Engineer, Ocean Project (September 2021 - August 2022)

- Developed backend data transformation services and frontend functionality for an internal Airbus application used to manage space equipment and mission data. (Java 11, Angular 13)
- Independently developed an R&D project exploring methods for visualising and manipulating dataset dependencies, within large-scale project datasets. Primarily integrating Angular visualisation libraries into Ocean's web application.

Bytemark Hosting

Junior Software Developer (July 2018 - July 2019)

- Developed features for a cloud server management application and an internal CLI client. (Ruby, Go, AngularJS)

Personal Projects (github.com/tomstirling19)

[Bamboo](#) AI Language Learning Application

- Self-developed using Go and React Native, with optional OpenAI integration, enabling users to generate personalised language lessons in any language. Features include custom lesson creation, personalised progress tracking and AI-assisted learning as an alternative to Duolingo.

Education

University of Leeds

MEng & BSc Computer Science, First-Class Honours (September 2016 - July 2021)

- MEng - Developed a medical image analysis system in partnership with NHS Scotland, leveraging a multi-model neural network to segment wrist X-rays, classify bones, and detect fractures, producing diagnostic heatmaps and reports.
- BSc - Developed an autonomous robotic assistant using robotics and computer vision to navigate users within a mapped environment, featuring facial recognition for user authentication and object detection for autonomous navigation.

Selby College

BTEC 90 Credit Extended Diploma in IT - D*D*D*, Equivalent to A*A*A* (September 2014 - July 2016)

Skills & Technology

Programming Languages: Java, Kotlin, Python, Go, TypeScript, C#.

Frameworks: Ktor, Spring Boot, React Native, Angular.

Distributed Systems & Architecture: Kafka, Event-Driven Architecture, Microservices, Hexagonal Architecture, Concurrent Programming, REST APIs, Test-Driven Development.

Cloud and Infrastructure: Kubernetes, Docker, AWS, Git, Monitoring & Observability.

Datastores: PostgreSQL, Cassandra, MongoDB, Redis.