

# Thomas Stirling – Software Engineer

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## Summary

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Experienced Software Engineer with over 5 years of hands-on contributions in Space & Defence, Medical, Security, and Gambling & Entertainment sectors. Proven ability to learn quickly and adapt to complex technical environments. Skilled in software engineering, problem-solving, mentoring, and eager to innovate and advance within the field.

## Experience

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### Sky Betting & Gaming (Flutter Entertainment)

Backend Software Engineer, Rep (Real-Time Events Processing) - (August 2023 - Present)

- Primary contributor to a new Bet Mutation Eligibility service. Leveraged a scalable, hexagonal architecture to retrieve bet mutation eligibility and information on existing bet mutations. Included a complete rewrite of one of Sky Bet's most heavily used features, AccaFreeze, including concurrent consumption from multiple Kafka streams (with sharding optimisation), a Cassandra datastore, and complex bet- and leg-level processing logic. (Java 21, Kafka, Cassandra)
- Contributed to a new Horse Racing Meta-data 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)

- Contributed as a full-stack engineer to a G4S client project, developing a security system to manage identities and building accesses, in an international environment. Played a key role in feature development of multiple modules (Identities, Alarms and Core), providing the primary functionality. (C#, .NET)

### Airbus Defence & Space

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

- Greatly contributed as a full-stack engineer towards an internal Airbus application used for storing and manipulating space equipment and mission data. Specifically contributed to the backend functionality for data transformation and processing, and the frontend user interface. (Java 11, Angular 13)
- Primary contributor towards the development of a prototype Rover. Engineered the hardware and self-developed an application for monitoring and control of the Rover. (Python, Node & Vue.js)
- 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)

- Contributed as a full-stack engineer towards a cloud server management application and an internal Bytemark CLI client. (Ruby, Go, AngularJS)

## Vans

Sales Assistant - (March 2015 - August 2016)

- Worked in a fast-paced, adaptive environment, aiding customers while strengthening core team skills.

## Personal Projects ([github.com/tomstirling19](https://github.com/tomstirling19))

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### Bamboo AI Language Learning Application

- Self-developed using Go and React Native, with optional OpenAI integration, to enable users to create custom lessons in any language. Features include personalised tracking and lesson creation—offering a personal alternative to Duolingo.

### CV-Template

- Created a public template—based on my personal website ([tmstrlng.com](https://tmstrlng.com))—that enables users to build a responsive CV website. Developed using React Native, allowing friends to host a website showcasing their personal achievements.

## Education

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### University of Leeds

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

- MEng - Contributed significantly towards a medical image analysis system, in partnership with NHS Scotland. Utilised a multi-model neural network to first segment X-ray images of wrists, labelling each bone. Further utilised the segmented image to detect and locate fractures within the X-ray, outputting a heatmap and report of the diagnosed fracture.
- BSc - Developed an autonomous robot assistant utilising robotics and computer vision, navigating a user to a precise position within a mapped environment. Featured facial recognition based authentication and object detection based goal determination.

### Selby College

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

## Skills & Technology

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

**Frameworks and Libraries:** Spring Boot, React / React Native, Node, Angular, TensorFlow & Keras, PyTorch, OpenCV.

**Tools, Languages and Applications:** Kubernetes, Docker, Kafka, Redis, GraphQL, SQL, MongoDB, Cassandra, Git, Jenkins, AWS, Elasticsearch, Grafana, Splunk, Chef.

**Architectures and Methodologies:** Object-Oriented Programming, Test-Driven Development, Publish/Subscribe model, Hexagonal Architecture, Microservices Architecture, REST, Agile, DevOps.

## Interests

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Artificial Intelligence, Robotics, Machine Learning (Neural Nets and LLMs).

Art (Sketching), Fashion, Film, Gaming, Music, Tennis, Football, Running, Rowing, Hiking.

*Employer references, academic references, and university transcript are available upon request.*