

# ALASTAIR FLYNN

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Software engineer with expertise in large-scale distributed systems. Architect and lead developer of SQLair, an open-source database library for Golang. Graduated with top honors in Computer Science from Oxford University.

## TECHNICAL EXPERTISE

<b>Programming Languages</b>	Golang, SQL, Python, Rust, Bash, Haskell
<b>Cloud Technologies</b>	Kubernetes, Terraform, Docker, LXD, AWS, Azure, OpenStack
<b>Tools</b>	Vim, Git, GitHub, Unix, Ubuntu, Jenkins, Jira
<b>Databases</b>	SQLite, DQLite, MongoDB

## SOFTWARE ENGINEERING EXPERIENCE

<b>Cloudsoft</b> <i>Senior Software Engineer</i> · TBD	Edinburgh, UK August 2025 - Present
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<b>Canonical</b> <i>Juju Core - Software Engineer</i> · Developed and maintained <a href="#">Juju</a> , a cloud orchestration engine that enables automated deployment, integration, and lifecycle management of applications using Charms (codified DevOps expertise). <ul style="list-style-type: none"><li>· Fully open source, 15-year-old project with over 1.2 million LoC written in Golang.</li><li>· Used by 1000+ engineers at leading tech companies (T-Mobile, Nvidia, BT, etc.).</li></ul> · Played a lead role in transitioning the Juju backend from MongoDB to SQLite. <ul style="list-style-type: none"><li>· Untangled, rewrote, and simplified complex legacy code while normalizing the data schema.</li></ul> · Designed and implemented key features for the Juju Terraform provider enabling fully automated deployments. <ul style="list-style-type: none"><li>· Enabled customers to fully automate Juju deployments and standardize integration testing.</li></ul> · Automated generation of online documentation and introduced versioning, boosting usability and readership. <li>· Enhanced integration test suite written in Python and Bash, reducing bugs reported in Juju releases.</li> <li>· Fixed critical Juju bugs on AWS, Azure, and OpenStack, ensuring robust customer deployments.</li> <li>· Recruited new talent, conducted interviews, and reviewed written applications.</li> <li>· Recognized by Canonical as a <i>Rising Star</i> in internal reviews for outstanding performance and contributions.</li>	Remote, UK February 2024 - July 2025
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<i>Office of the CTO - Software Engineer</i> · Lead developer and architect of <a href="#">SQLair</a> , an open source Golang library that extends SQL with specialized syntax to map between Golang types and database rows. <ul style="list-style-type: none"><li>· Designed SQLair to increase readability, reliability, and maintainability of SQL queries from Golang.</li><li>· Built library from the ground up and developed it into fully featured product with an active user base both inside and outside of Canonical.</li><li>· Contributed 12k out of the 13k lines of code in the GitHub repo (92%) and carefully reviewed other contributions, ensuring conceptual integrity across the codebase.</li><li>· Acted as product owner, communicating with C-Suite leadership and advocating for adoption across the company, resulting in Juju and Notary, among others, embracing the library.</li><li>· Authored the entire <a href="#">SQLair documentation</a>, the only set out of 96 at Canonical to achieve the top rating of <i>Exceeds Expectations</i> from the documentation Practice Lead.</li></ul> · Collaborated with Community and Marketing teams to represent Canonical at external events.	September 2022 - February 2024
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### Speaking Engagements

- [SCALE 2025 Pasadena, USA](#): Unlocking the Full Potential of Open-Source
  - How Juju can unlock the power of open-source software for small businesses.

- **OpenSearchCon 2023** *Seattle, USA*: OpenSearch+Infra on Your Laptop in Under 5 Minutes
  - How Juju can orchestrate Opensearch on a virtual cloud on Your laptop (and on other clouds).
- **DORS/CLUC 2023** *Zagreb, Croatia*: Kubernetes Is Not Open Source
  - Spoke on what it means to be open source and how Canonical's philosophy reflects that.
- **Ubuntu Summit 2023** *Riga, Latvia*: Talking SQL in Go
  - An introduction to SQLair, the Golang library designed and led during time at Canonical.

## EDUCATION

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### University of Oxford - Somerville College

*MCompSci (Integrated Masters Degree)*

*2017 - 2021*

- Masters – Distinction (equivalent to 4.0 GPA).
  - Dissertation implementing specific monads from category theory in Haskell.
  - Specialized in concurrency, functional programming, category theory, and quantum computing.
- Bachelors – 1st class honors (equivalent to 4.0 GPA).
  - Third year project applying machine learning to general game playing.
  - Awarded Shaw Lefevre scholarship for exceptional results in second-year examinations.

## PROFESSIONAL DEVELOPMENT

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### No Name Kitchen

*Volunteer*

*Serbia*

*May 2022 - July 2022*

- Provided vital support to migrants, delivering food, healthcare, and lifesaving assistance.
- Authored reports to raise awareness of the humanitarian challenges faced by migrants travelling through the Balkans.

### NUCO Travel

*Ski Representative*

*France*

*December 2021 - February 2022*

- Provided exceptional customer service and sold upgrades to ski packages.

### Infosys

*Intern - Software Engineer*

*Remote, UK*

*July 2020 - September 2020*

- Built a facial recognition model utilizing quantum machine learning.
- Used PyTorch to integrate quantum circuits, constructed using the PennyLane library, into a classical neural network.

### Metaswitch Networks

*Intern - Software Engineer*

*Edinburgh, UK*

*July 2019 - September 2019*

- Contributed Rust code to several microservices in a large telco solution.
- Conducted a 3 week-long security review of the product, patching multiple identified issues.
- Offered maximum bonus available for outstanding performance.

## INTERESTS & ACHIEVEMENTS

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- Advanced pianist (ABRSM Grade 8).
- Recipient of the Gold Duke of Edinburgh award.
- Keen runner and orienteer.