

# James Beach

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## Experience

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**Software Development Engineer - Java, Kotlin, TypeScript, React** June 2023 – Present  
*Clearwater Analytics* *Edinburgh*

- Designed and developed distributed systems from scratch using micro-service architecture. Including infrastructure automation via **Terraform**, containerisation using **Docker**, **Kubernetes**, and **Helm Fleet**, automated CI/CD build pipelines using **Jenkins**, and disaster-recovery and availability monitoring via **Dynatrace** and **Grafana**.
- Led the infrastructure & design of a new micro-service, leveraging **AWS** cloud-native technologies (**EC2**, **EKS**, **Amazon MQ**, **RDS**, **DynamoDB**, **AppConfig**, and **IAM**) to ensure an efficient, low-cost, and scalable approach to operational reliability.
- Designed, maintained, and developed a micro-service which consumed and produced to **RabbitMQ** message queues to asynchronously queue and launch ETL jobs. Including the development of a custom-built load-balancer, and de-synchronisation logic to ensure horizontal scalability.
- Took initiative to challenge the status quo of typical internal ETL design by being the first to opt for cloud-native technologies, and assisted in paving the way for others by collaborating with external teams who wish to achieve the same.
- Created an internal tool that automated local **RDS** authentication, reducing the typical time taken from 15 minutes to 30 seconds, with the additional benefit of reducing the process's cognitive complexity for those unfamiliar.
- Collaborated with 2 other developers over the course of Q4 2023 to bring an insurance product in line with new regulatory guidance, impacting dozens of Clearwater clients, and an undertaking of collaboration with Product managers.
- Using **Kotlin** co-routines, parallelised ETL database write operations, reducing load stage run-times by 70%.
- Developed a dynamic, client-facing interface using **TypeScript** and **React** to enable clients to input and manage fund data efficiently

**Software Engineer Intern - Kotlin, React, TypeScript** June 2021 – Sept 2021  
*Kaluza* *Edinburgh*

- Collaborated with 3 engineers to design and develop a front-end service from scratch using **React** and **TypeScript**, providing a user-interface to enhance error logging and debugging of electric smart meters, aiding in the productivity of customer service agents.
- Contributed to a data-normalization micro-service written in **Kotlin**, consuming electric smart-meter tracking data from an **Apache Kafka** topic, normalising and subsequently storing.

## Education

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**Bachelor of Science in Computer Science** Grad. 2023  
*Heriot-Watt University* *Edinburgh*  
– **Graduated with First Class Honours.** (85% avg)

## Skills

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**Languages:** Java, Kotlin, C#

**Frameworks & Tools:** Quarkus, RabbitMQ, Kubernetes, AWS

**Databases:** MySQL, PostgreSQL, MSSQL, DynamoDB (NoSQL)

**Other Skills:** Systems Architecture and Design