

## EXPERIENCE

**Bulb**

September 2021 - Present

*Software Engineer (International Platform)*

- Improved and wrote *Flask* and *FastAPI* services in *Python 3.10*, type checked with *mypy*, monitored with *Datadog*, running in a *Kubernetes* cluster in *GCP*, deployed via *CircleCI*
- Facilitated *Terraform* state manipulation to move to distributed *Terraform* state files across teams; introduced *k6* load testing to team monorepo; improved *SQLAlchemy* usage and type checking
- Demoed *Kotlin* (subsequently refactored Bulb's Android app from *Java* to *Kotlin*) and *gRPC* (subsequent PoC in *Python* and *Typescript* and presentation to Engineering Leadership Team)
- Provided both in- and out-of-hour on-call technical and operational support, and incident management

**ITV**

February 2021 - August 2021

*Software Engineer (Operational Research, Core Ad Tech)*

- Greenfield project to replace legacy *C#* advert scheduling system using modern architecture and technologies – *Kotlin ktor* microservices with *New Relic* monitoring, running in *Kubernetes* or as *AWS Lambda* functions, and deployed via *CircleCI*
- Introduced and implemented *Terraform* for infrastructure management
- Cross-functional responsibilities including backend development, devops setup, and facilitating agile ceremonies

**Global Media & Entertainment**

September 2017 - January 2021

*Software Developer*

- **(August 2020 - January 2021) DAX Outdoor** - Programmatic imagery advert delivery system
  - \* Enhanced *Javascript* display scripts to support rotation and scaling
  - \* Productionised MVP *Java 11* Spring apps running in *Beanstalk* into fully-fledged, auto-scaled *EC2* instances
  - \* Consolidated REST API design, security, implementation, and documentation to be used internally and by 3rd parties
  - \* Cross-functional responsibilities including backend development, devops maintenance, and facilitating agile ceremonies
- **(April 2020 - August 2020) DAX Audio** - Programmatic audio advert configuration and delivery system
  - \* Backend development for the greenfield audio advertising platform, fronted by a *GraphQL* API with *Java 11* Spring microservices communicating via *gRPC*, running in *Kubernetes*, with *Prometheus* and *ELK* stack for monitoring
  - \* Facilitated go-live and production releases; in-hour on-call support including incident management and hotfixes
- **(May 2018 - April 2020) Broadcast Platform** - Broadcast radio systems
  - \* Designed and wrote *Java 8 & 11* Spring microservices and *Java AWS Lambda* functions to generate, transform, and deliver radio schedule and event metadata via *RabbitMQ*, TCP, REST, XML and bespoke text files
  - \* Organised production releases; led a team of four to deliver a successful Hackathon; mentored a Year 12 student
- **(September 2017 - May 2018) Data Engineering**
  - \* Contributed across the whole data flow using the Azure data stack; updated *C#* libraries; visualisation with *PowerBI*
  - \* Completed data quality investigations using a combination of tools including *Python*, *Jupyter Notebooks* and *SQL*
  - \* Organised, participated in and won the "Best Hack" award at the annual internal Hackathon

**Jagex Games Studio***Data Engineer Intern*

June 2016 – September 2016

*Placement Data Analyst*

June 2014 – September 2015

- Migrated and improved data pipelines & manager from *bash* to *Python 2.7*
- Performed ETL and analytical tasks on *Hadoop* and *ELK* data using *Python* tooling such as *Jupyter*, *pandas* and *matplotlib*

## SKILLS

**Python 3.10:** Wrote production software with *Flask*, *FastAPI*, *mypy* and *pytest*; familiar with *pandas* and *Jupyter* notebooks**Kotlin (JVM):** Wrote production *ktor* web services; wrote tests using *kotest* and *mockk*; built with *Gradle***Java 8/11:** Wrote production *Spring* services tested with *JUnit*, *Mockito*, *REST Assured* & *testcontainers*; built with *Maven* & *Gradle***CircleCI, Jenkins, Git:** Wrote production *Jenkinsfile* and *CircleCI* scripts; production use of *Git* with GitHub**AWS, GCP:** Production use of *AWS* including *ECR/ECS/EKS/EC2*, *SQS*, *S3*, *RDS/Elasticache*, *API Gateway/Route53*, *AWS Lambda* and *Cloudwatch*; production use of *GCP* including *GKE*, *Pub/Sub*, *Cloud SQL*, *BigQuery* and *GCS***Terraform:** Production infrastructure setup**Kubernetes, Docker:** Production use of both; wrote *Dockerfiles*, *docker-compose* and *kubernetes* deployment scripts**Datadog, ELK, Prometheus, New Relic:** Production use and set up using different monitoring & altering systems**Databases (relational & NoSQL):** (*MySQL*, *Postgres*, *Redis*, *MongoDB*) used in production together with *Java* Spring and *Kotlin* applications; (*Hadoop*, *MSSQL*) used for ETL & analysis on datasets up to hundreds of GBs**Linux, CLI, shell scripting:** Extensive use of *vim* and CLI in general; written *bash* scripts as part of build steps and automation

## EDUCATION

**University of Bath**

September 2012 – June 2017

2:1 (hons) *MComp Computer Science* with year-long placement

## SIDE PROJECTS

**Personal Website (melaus.xyz)**

Python/Github Actions/Terraform/HTML

Self-hosted on *AWS* (*S3*, *Cloudfront*, *ACM*); set up with *Terraform*; built with *GitHub Actions*; uses *Pelican* static site generator**Work-in-progress Android App (Zeen)**

Kotlin/Android SDK/Jetpack Compose

A *Kotlin* Android reader for *Feedbin* with single-activity *Jetpack Compose* UI and *ktor* to interact with REST APIs