CIARAN MCKEY

Software Engineer

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EXPERIENCE

Software Engineer
Darktrace

📅 Apr 2021 - Present   📍 Cambridge, UK

- **Authentication:**
  - Developed and deployed AWS authentication server with proficient permissions management.
  - Developed and deployed secure inter-server authentication across internal systems.
- **Database Design and Management:**
  - Designed 3NF relational DB tables and managed production data migrations.
- **Microservices Expertise:**
  - Designed a microservice-oriented architecture within Kubernetes.
  - Developed microservices using Python and crafted corresponding Helm charts and infrastructure using terraform.
  - Implemented and fine tuned microservice scaling using Prometheus metrics and Keda.
  - Acquired a comprehensive understanding of fault tolerance principles in microservices and translated these principles into robust, code-based implementations.
- **Kubernetes Dev Flow Optimization:**
  - Researched and established a streamlined Kubernetes development flow for developers, optimizing the development cycle by simplifying deployment, testing, and iteration processes. (Docker, DevSpace, Kind, Teleport)
- **Metrics and Monitoring in Kubernetes:**
  - Researched and contributed to the implementation of a monitoring stack for Kubernetes microservices, focusing on realizing the three pillars of observability.
    - Metrics (Prometheus/ Grafana)
    - Logs (Loki)
    - Traces (OpenTelemetry)
- **CI/CD Pipeline Dev:**
  - Created a GitOps-driven CI/CD pipeline utilizing Flux, ArgoCD, and GitLab CI/CD to deploy to EKS securely.
- **Efficient Customer Provisioning:**
  - Engineered streamlined customer on-boarding using ArgoCD and microservices.
- **Key AWS Services:**
  - Foundational AWS knowledge, focused on networking, firewalls, and permissions.
  - Skillfully used AWS services: ECR, EKS, SQS, Lambda, S3, IAM, etc.
- **Effective Soft Skills:**
  - Successful 2-15 member on-boarding, coordinated team efforts, effective collaboration.

System and Backend Developer
Play Well for Life

📅 Jan 2020 - Apr 2021   📍 Surrey, UK

- **System Design and ECS Development:**
  - Designed and developed containerized ECS services.
- **Dynamic Systems Programming:**
  - Programmed microcontrollers, API's, and databases.
- **Java Development:**
  - Proficient in Java programming.

LIFE PHILOSOPHY

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid"

EDUCATION

BScEng Hons in Computer and Electrical Engineering
University of Cape Town

📅 2016 – 2019   📍 Cape Town, South Africa

TECHNICAL PROFICIENCIES

Skill	Level
Python	●●●●●
Docker	●●●●●
Kubernetes	●●●●○
System Design	●●●●○
AWS	●●●●○
Networking / Security	●●●●○
Helm	●●●●○
Soft Skills	●●●●○
Linux	●●●●○
Terraform	●●●○○
Prometheus / Grafana	●●●○○

MOST PROUD OF

Presentation skills
Presented to the dev department at Darktrace (roughly 200 people) about microservice design, fault-tolerance and development flow optimisation.

Developed a product and its processes from scratch and taken it to production.
Comprehensive understanding of the entire project lifecycle, from team coordination to coding, in order to successfully deploy applications to production.

STRENGTHS

Hard Working   Communicative

Goal Oriented   Generalist

Team Leader   Adaptable   Mentor

- **CI/CD Pipeline Building:**
  - Created effective CI/CD pipelines.
- **Customer Portal with Bubble.io:**
  - Developed customer portal using Bubble.io.
- **Goal-Oriented People Management:**
  - Efficiently managed teams to achieve objectives.

Professor's Assistant

University Of Cape Town

📅 June 2019 - November 2019   📍 Cape Town, South Africa

- **Low-Cost Radar Feasibility Testing:**
  - Assessed low-cost radar viability using LimeSDR.
- **C++ Development:**
  - Proficient in C++ programming.
- **Antenna Design:**
  - Designed effective antennas.
- **Hybrid Systems:**
  - Expertise in hybrid system architectures.

PROJECT EXPERIENCE

Customer-facing high load application.
Due to the nature of the product and its stage of development, I am unable to disclose details. This project is built on Kubernetes with a microservice architecture and SQS as a message broker for asynchronous processing. This was the first of its kind, and so we were a platform for accessing feasibility and effectiveness of Kubernetes as a solution. We built everything from the ground up, from the developer tools, monitoring stack to the customer provisioning. This product is in its early adopter phase, to be released to the general public in the coming months.

Educational Minecraft platform.
At Play Well for Life, we developed a product which aimed to use Minecraft as an educational platform. In order to cope with scale, I designed it around containerised servers using ECS. These containers were only accessible through a BungeeCord Proxy Server which authenticated and redirected players to their servers. I also created a website using bubble.io that was the platform to rent a server that would provision a server for new customer on purchase and allow them to add a list of allowed Minecraft Users to join.

HOBBIES

Rock Climbing
3 Times a week for 3 years

Traveling
Exploring new countries and having new experiences

Coding
Creating apps and learning new skills for fun.

REFEREES

References available on request