HOUSTON PEARSE
houstonlpearse@gmail.com | github.com/houstonpearse | Melbourne VIC

SKILLS

Terraform, Kubernetes, Linux, TypeScript, JavaScript, React, NextJS, Html, CSS, Python, GO, AWS, Azure Pipelines

WORK EXPERIENCE

Deloitte, Full-Stack Engineer March 2022 – Current

Deloitte, Internal Data Ingestion Platform, NextJS Full-Stack Engineer July 2024 – Current

- Developed a NextJS UI for a Data Ingestion Platform that was built using AWS DynamoDB and Step Functions.
- Created a custom pagination workflow that integrated with the DynamoDB API.
- Collaborated with designers to communicate requirements. Refactored the application to match the new design.

Deloitte, GenAI Platform, Infrastructure Engineer July 2024 – Current

- Led the automation of Deloitte's internal GenAI platform deployment process. This involved using terraform to deploy infrastructure to AWS. This significantly increased the reliability and speed of deployment and allowed us to deploy client ready GenAI platforms to client infrastructure with ease.
- Designed and built a container publishing pipeline that pushed containerised client ready GenAI platforms to the clients container registry. This was built with Azure Pipelines and AWS ECR and enabled us to push platform updates securely to the client environment.

Government Aviation Organisation, Digital Twin Application, Backend Engineer Feb 2024 – July 2024

- Designed and Implemented graphQL API's. API's were written in GO and involved interfacing with a postgres database, AWS Lambda or AWS DynamoDB.
- Designed and Implemented custom data ingestion workflows on a custom ingestion platform(Later worked to build out the frontend for this platform). Pipelines steps were written in TypeScript and SQL and were orchestrated with AWS Step Functions. These pipelines allowed the application to ingest large amounts of flight data in real time.

Government Aviation Organisation, Digital Twin Application, Infrastructure Engineer Oct 2024 – Feb 2024

- Built Azure DevOps Pipelines to deploy networking and core AWS infrastructure for the application. These pipelines use Terraform for IaC and they enabled the team to quickly create new environments to meet the clients needs.
- Developed Azure DevOps Pipelines with Terraform to build and deploy micro-services to EKS. These pipelines were replicated across all 6 of the micro-services used in the project. The goal of this was to make the DevOps process very simple for each team working on specific micro-services and entirely based on pull requests.

Government Aviation Organisation, Digital Twin Application, Test Engineer July 2023 – Oct 2023

- Led the Projects Performance Testing practice using Artillery and Playwright with JavaScript. This performance testing uncovered serious performance issues which I later worked inside the backend team to fix.
- Automation Testing with Playwright using TypeScript. Led the redesign and refactor of our testing suite to align with best practices. Taught the team about Playwright best practices to increase code quality and ease of maintenance. The code quality and correctness of the team members improved substantially after this effort.
- Led the API correctness testing requirements by developing custom scripts in typescript. This testing uncovered uncovered many bugs within the API and highlighted a serious API design flaw which only rarely appeared under high load.

Deloitte, Superannuation Calculator API, Performance Optimisation Engineer April 2023 – June 2023

- Optimised an API that was running on a series of AWS Lambda's that experienced 15 second cold start times and severe latency under load. Diagnosed performance issues with artillery and AWS X-Ray. Made infrastructure and Application code changes to improve api latency. Ran performance tests against proposed changes to measure the performance impact. Created data visualisations to present changes in performance to relevant stakeholders. Achieved an 80% reduction in 95 percentile request times.

Deloitte, Internal Automation, Lead Engineer March 2022 – March 2023

- Led the design and development of multiple lightweight serverless applications. The applications were written in python and used AWS Lambda, AWS API Gateway. Also created a gitlab instance with AWS CloudFormation and developed Gitlab CICD pipelines for the automated deployment of these applications.
- Used a bash script and a MacOS Launch Daemon to schedule and automate the upload of local files to Amazon S3. This upload process supported the data sourcing requirements of the applications created.

Client Cloud Migration Project – Migration Engineer Oct 2022 – Feb 20223

- Supported and orchestrated the migration of servers. Ensured the 12 Client engineers performed the correct steps that enabled the application cutovers.
- Used Terraform to stand up AWS infrastructure required for the migration of servers from on-prem to AWS

EDUCATION

The University of Melbourne, Bachelor of Science, Computing and Software Systems – Deans List Dec 2021

CERTIFICATIONS

Azure Fundamentals, AWS Developer Associate, AWS Solutions Architect Associate, AWS SysOps Admin Associate