Kian Jones

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Experience

Covariant AI
JANUARY 2023 - CURRENT

Software Engineer, Infrastructure

- Scaled Covariant's ML platform to **enable training and deployment of an 8-billion-parameter** robotics foundation model, optimizing infrastructure to handle **multimodal data** (text, images, video, robot actions, sensor readings).
- Architected a system to provision **30+ nodes accommodating 400+ H100s** for distributed deep learning workloads and join them to Covariant's training clusters, sourcing **GPU instances from multiple clouds (**AWS, GCP, Crusoe, Lambda, Voltage Park, On-premises) with mixed data plane (**RoCE**, **InfiniBand**) technologies.
- Developed and optimized the Robot Data Platform, **enabling real-time processing of 1.7M events daily** via Apache Airflow on Kubernetes, ingesting video clips (Kinesis), third-party annotations, and telemetry (Snowflake).
- Built a **multi-petabyte disaster recovery system for AI datasets**, ensuring cost-effective backups and continuous ingestion of new multimodal data in a separate locked-down AWS account, **protecting the company from ransomware attacks and saving ~$28,000/month** compared to the naively copying and storing the data.
- **Resolved critical outages** and partial availability **affecting 4 remote sites** across 3 regions by creating **blackbox monitoring and observability tooling**, enriching the existing monitoring stack with real-time logging, alerting, and auto-remediation of reachability and connection-related performance issues.
- **Migrated all servers** (cloud nodes, GPU nodes, dev stations, on-prem infra, and customer-deployed robotic stations) **from Salt-managed Ubuntu 18.04 to Puppet-managed Ubuntu 22.04**, including an automated **provisioning** stack, **Debian mirrors** for internal packages and external security patches, and comprehensive **documentation**.

Meta (Facebook)
MAY 2021 - JANUARY 2023

Software Engineer, Wireless Connectivity Deployment

- Built a suite of **automated testing tools in Python**, streamlining cellular protocol validation and improving development efficiency for a team of 20 engineers.
- Designed and implemented backend systems for provisioning and managing 5G infrastructure, including VMs, firewalls, routers, switches, and bare-metal servers.
- Implemented automated test environments to increase test coverage and reduce network performance bugs.

Software Engineer Intern, Edge Network Services

- **Developed and optimized CI/CD pipelines in Python and Ansible** to streamline mobile core software deployment.
- Implemented **Python-based validation scripts** using PyShark to automate LTE protocol message flow analysis, improving debugging efficiency.

Nokia
SEPTEMBER 2020 - DECEMBER 2020

Software Engineer Intern

- Wrote **developer tooling in Python** to interface with Spirent HIL simulation environments, improving troubleshooting and debugging of customer issues.
- **Analyzed YANG data models** to resolve inconsistencies between CLI and NETCONF interfaces, ensuring consistency across network management systems.

Centre of Excellence in Next-Generation Networks
JANUARY 2020 - AUGUST 2020

Software Engineer Intern

- Implemented Cilium as a Container Network Interface (CNI) across **multiple Kubernetes clusters, enhancing network observabilit**y and security at layers 4-7.
- Built a **cloud-native streaming platform** using Elasticsearch, Fluentd, and Kibana (EFK) on Kubernetes to **centralize log ingestion** from thousands of multi-vendor network devices, servers, VMs and containerized workloads.

Education

Bachelor of IT, Major in Network Technology, Carleton University, 2022

Advanced Diploma in Applied Technology, Algonquin College, 2021

Skills

Coding: Python, Go, Bash

ML & Data Infra: Kubernetes, Apache Airflow, Apache Spark, MLflow, SkyPilot, Snowflake, Kinesis

Infrastructure as Code: Docker, Terraform, Packer, Ansible, Salt, Puppet

Other: Linux, TCP/IP Networking, CI/CD, Distributed Computing