AMOS KING

- Agile Practitioner / Thought Leader / Web and Embedded Developer

Agile Practitioner / Thought Leader / Web and Embedded Developer

Agile practitioner with deep expertise in Scrum, Kanban, and Lean methodologies. Proven track record of leading cross-functional teams to deliver complex software solutions, including high-availability systems. Passionate about continuous improvement and fostering collaborative, high-performance teams.

Work Experience

Senior Software Engineer | Cambridge, Ontario, Canada | Apr. 2022 – Present | Amazon Web Services Inc.

- Lead the development of a high-availability, multi-region, multi-tenant Kubernetes control plane for managing Amazon Elastic Kubernetes Service (EKS) clusters, ensuring seamless scalability and resilience for customer workloads.
- Implemented a custom Kubernetes operator using Go and the Kubernetes API machinery, automating the provisioning and lifecycle management of critical infrastructure components, reducing manual intervention by 40%.
- Designed and implemented a gRPC-based internal API for cross-region state synchronization, achieving sub-100ms latency for critical operations and ensuring data consistency across distributed systems.
- Mentored junior engineers on Kubernetes internals, Go programming, and distributed systems design, fostering a culture of knowledge sharing and technical excellence.

Senior Software Engineer | Toronto, Ontario, Canada | Jan. 2020 – Apr. 2022 | Amazon Web Services Inc.

- Developed and maintained core components of the Amazon Elastic Container Service (ECS) agent, enhancing its stability and performance for managing containerized applications on customer instances.
- Implemented a new feature for ECS task networking using Linux kernel namespaces and iptables, enabling more granular security policies for containerized workloads.
- Contributed to the ECS open-source project, addressing critical bugs and implementing community-requested features, fostering collaboration with external developers.

Software Developer | Toronto, Ontario, Canada | Sept. 2017 – Dec. 2019 | Amazon Web Services Inc.

- Developed and maintained internal tools and automation scripts using Python and Bash, improving operational efficiency for the ECS team by 15%.
- Assisted in the troubleshooting and resolution of production issues for Amazon ECS, gaining deep understanding of distributed systems and cloud infrastructure.
- Participated in Agile ceremonies (Scrum, Kanban) and contributed to the team's continuous improvement initiatives.

Software Developer | Toronto, Ontario, Canada | Jan. 2016 – Sept. 2017 | Amazon Web Services Inc.

- Developed and maintained internal tools and automation scripts using Python and Bash, improving operational efficiency for the ECS team by 15%.
- Assisted in the troubleshooting and resolution of production issues for Amazon ECS, gaining deep understanding of distributed systems and cloud infrastructure.
- Participated in Agile ceremonies (Scrum, Kanban) and contributed to the team's continuous improvement initiatives.

Education

Master of Engineering, Software Engineering | McMaster University | Hamilton, Ontario, Canada | Sept. 2014 – Dec. 2015

- Thesis: "Formal Verification of Concurrent Data Structures in Go using Model Checking"
- Relevant Coursework: Advanced Algorithms, Distributed Systems, Formal Methods, Compiler Design

Bachelor of Science, Computer Science | McMaster University | Hamilton, Ontario, Canada | Sept. 2010 – Dec. 2014

- Dean's Honours List (top 5% of class)
- Relevant Coursework: Operating Systems, Computer Networks, Database Systems, Artificial Intelligence

Skills

Programming Languages: Go, Python, Bash, C++, Java

Cloud Platforms: Amazon Web Services (AWS), Kubernetes, Docker, Linux

Methodologies: Agile (Scrum, Kanban), Lean, Test-Driven Development (TDD), Continuous Integration/Continuous Deployment (CI/CD)

Tools: Git, GitHub, Jira, Confluence, Prometheus, Grafana, Slack

Soft Skills: Leadership, Mentoring, Cross-functional Collaboration, Problem Solving, Communication, Technical Writing, Presentation Skills

Projects

Distributed Leadership Library

- Implemented a lightweight library for leader election and distributed locking using etcd and Go.
- Achieved high availability and fault tolerance through leveraging etcd's Raft consensus algorithm.
- Contributed bug fixes and documentation improvements to the etcd project.

Kubernetes Custom Resource Definition (CRD) Operator

- Developed a custom Kubernetes operator using Go and the Kubernetes API machinery to automate the provisioning and management of a stateful application.
- Implemented leader election for high availability and utilized Prometheus metrics for monitoring and alerting.
- Deployed the operator using Helm charts and integrated with a CI/CD pipeline using GitHub Actions.

Distributed Key-Value Store

- Implemented a simple, fault-tolerant key-value store using Go and the Raft consensus algorithm.
- Achieved strong consistency and high availability for read and write operations.
- Developed a client library and a command-line interface for interacting with the key-value store.

Web Scraper for Job Postings

- Developed a Python-based web scraper using Scrapy and Beautiful Soup to collect job postings from various websites.
- Implemented data cleaning and normalization pipelines to ensure data quality.
- Stored the collected data in a PostgreSQL database and created a simple API to access the data.

Certifications

Certified Kubernetes Administrator (CKA) | The Linux Foundation | Issued: Mar. 2023 | Expires: Mar. 2026

- Demonstrated proficiency in the administration of Kubernetes clusters, including installation, configuration, and troubleshooting.

Amazon Web Services Solutions Architect – Associate | Amazon Web Services | Issued: Jan. 2021 | Expired

- Demonstrated knowledge of AWS cloud architecture and services, including compute, storage, networking, and security.

Interests

- Open Source Contribution
- Distributed Systems Research
- Mentoring Junior Engineers
- Exploring Emerging Technologies (WebAssembly, Rust)
- Technical Writing and Blogging
- Contributing to Open Source Projects

Languages

English – Native

Arabic – Native

Spanish – Intermediate

Mandarin Chinese – Beginner

Contact

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