

HongKun Tian

Vancouver, BC | hongkuntian.me | hongkun.tian@hotmail.com | [LinkedIn](#) | [GitHub](#)

SUMMARY

Backend and distributed-systems engineer with 4+ years on AWS Step Functions, owning production reliability, workflow-platform capabilities, global region launches, deployment automation, and operational tooling for a large-scale serverless service.

EXPERIENCE

Amazon Web Services (AWS)

Software Development Engineer II (L5), AWS Step Functions Apr 2024 - Present

- Owned end-to-end modernization of Step Functions alarm infrastructure across roughly 40 AWS Regions, consolidating 1,016 pipeline deployment groups to 75, cutting package build time from 93 to 26 minutes, and aggregating duplicate paging.
- Built an SOP-driven LLM agent with reusable tools to apply a complex quota-safety decision tree, reducing manual triage by approximately 80% across 10-20 weekly requests while retaining human review.
- Owned Step Functions work from internal availability to GA in an isolated AWS environment, diagnosing cross-service failures through remote operators and launching in September 2025.
- Delivered JSONata expression validation that prevented invalid runtime references and improved developer diagnostics for a major workflow-language launch.
- Redesigned operational quota tooling after recurring abuse events, batching related changes under one approval, adding validation and safe retry, and cutting processing time by roughly 50%.
- Consolidated two CloudFormation publishing pipelines and resolved contract-test and cache-sensitive failures, improving successful runs from roughly 20% to 99% over one year.

Software Development Engineer (L4), AWS Step Functions Jul 2022 - Apr 2024

- Helped deliver state machine versioning and aliases by implementing publish-path idempotency, legacy compatibility, CloudFormation resource behavior, and integration tests for safe traffic shifting and rollback.
- Built throttling, monitoring canaries, and global rollout infrastructure for the ValidateStateMachineDefinition API, enabling customers to catch workflow-definition errors before deployment.

Software Development Engineer Intern, AWS Step Functions May 2021 – Aug 2021

- Built reusable React components, workflow visualizations, and cross-service integration tests for AWS Step Functions console integrations.

Ericsson

Software Developer Intern Jan 2021 – Apr 2021

- Automated Jenkins deployment workflows across VMware and OpenStack environments using Bash and Groovy.

UMAKnow

Software Developer Intern Jun 2019 – Aug 2020

- Built cloud-infrastructure diagram generation, a server-side REST API, responsive UI, and automated acceptance tests for Clouddockit.

EDUCATION

McGill University

Bachelor of Science, Honours Computer Science

GPA: 4.00 / 4.00; Alan Shaver Scholarship for academic excellence.

Montreal, Canada

Sep 2018 – May 2022

SKILLS

- **Languages:** Java, TypeScript, Python, JavaScript, C/C++, Bash, SQL
- **Infrastructure:** AWS, Step Functions, CloudFormation, CDK, DynamoDB, CloudWatch, EventBridge
- **Systems:** Distributed systems, workflow orchestration, backend services, CI/CD, infrastructure automation, service reliability
- **Developer Tooling:** API design, integration testing, observability, production debugging
- **AI / Tooling:** LLM agents, tool calling, SOP-driven automation