

Aston Yao

Senior Software Engineer

Senior Software Engineer with experience designing scalable full-stack platforms, event-driven systems, and AI-enabled engineering workflows.

I work best on problems where product thinking, system design, and pragmatic delivery need to come together. Over time I've gravitated toward cloud-native systems, distributed workflows, search and data platforms, and the kind of full-stack products where architecture matters as much as implementation.

LOCATION

Melbourne, Victoria, Australia

EMAIL

yao.aston+resume@gmail.com

LINKEDIN

linkedin.com/in/astonyao

GITHUB

github.com/astonyao

SUMMARY

My approach is all about finding the right tools for the job and keeping things straightforward. I focus on delivering exactly what's needed, iterating based on real-world feedback, and keeping systems simple enough to evolve.

The work I enjoy most sits at the intersection of system design, full-stack product development, and cloud architecture. I like shaping the technical path, making trade-offs visible, and then helping build the thing for real.

I keep experimenting with new AI tools and workflows, and fold the useful ones into how I work. But in practice, things like engineering judgement, testing, and maintainability still decide what is good enough to ship.

CORE CAPABILITIES

System Design

- Distributed systems handling tens of millions of daily events
- Event-driven architecture
- Workflow orchestration
- Service integration
- Reliability and resilience

Architecture

- Cloud-native platforms
- Legacy modernisation
- Data and search systems
- API and platform design
- Scalable backend services

AI-Enabled Engineering

- AI coding tools, workflows, and reusable skills
- LLM powered product features
- Generative UI and agent workflows
- Practical integration of AI into existing platforms
- Tested and maintainable AI delivery in production

Delivery and Quality

- Testing strategy
- Safe releases
- Observability
- CI/CD
- Cross-functional collaboration

SELECTED EXPERIENCE

Commonwealth Bank of Australia

Senior Software Engineer

Dec 2024 - Present

CONSULTING ENGAGEMENT VIA MANTEL GROUP

Embedded across two programs, one focused on payment file processing and one on large scale customer search.

Sep 2025 - Feb 2026

Business Banking - Payment File Translation Service

Replaced legacy payment file processing with a cloud-native translation platform designed for secure ingestion, validation, transformation, and delivery.

- Designed and delivered a distributed payment file processing service on AWS and Temporal.
- Used Temporal workflows to model durable multi-step processing with retries, state persistence, and operational traceability.
- Integrated enterprise messaging and file connectivity through Kafka and IBM Sterling B2B.
- Worked within a highly regulated banking domain where reliability, auditability, and operational clarity were core requirements.

Tech: Temporal, Kotlin, Kafka, IBM Sterling B2B, AWS Services

Dec 2024 - Sep 2025

CommSee 2.0

A cloud-native data and search platform supporting real-time customer search across millions of records.

- Helped shape a distributed data platform processing more than 30 million daily records through event-driven services.
- Built real-time ingestion and processing workflows across SQS, S3, EC2, Lambda, Kafka, and OpenSearch.
- Integrated an agentic AI workflow to automate card replacement processes and reduce manual operational effort.

Tech: OpenSearch, Kafka, AWS, TypeScript, Node.js, Python

DiUS

Jul 2019 - Sep 2024

Software Engineer, Consultant

Consulted across retail, energy, and product teams, with a focus on shaping practical architecture and delivering systems that could survive real production constraints.

- Examples included building a stock on hand system for Kmart during COVID click and collect, and scaling image workflows for a geological data platform at Datarock.
- Translated ambiguous requirements into working systems with clients, product, and engineering teams.
- Built a broad base across backend systems, frontend delivery, cloud infrastructure, and consulting-style technical leadership.

Datarock

Oct 2022 - Jul 2024

Senior Software Engineer

CONSULTING ENGAGEMENT VIA DIUS

Shaped both backend and frontend platform capabilities in a product handling complex geological and image-based workflows, where performance, scale, and user experience all mattered.

- Delivered backend and frontend platform capabilities for high-scale image and geological data workflows.
- Designed and maintained internal and external APIs that supported both operational tooling and customer-facing product features.
- Worked on Deep Zoom and image-processing workflows that improved how large, detailed datasets could be explored in the product.
- Improved service reliability and integration discipline through stronger API design and contract testing between services.
- Contributed across the stack, which meant balancing platform concerns with real user-facing outcomes.

Tech: TypeScript, Node.js, AWS Lambda, DynamoDB, API Gateway, SQS, React, Svelte, Python

Kmart

Nov 2020 - Feb 2022

Software Engineer

CONSULTING ENGAGEMENT VIA DIUS

Delivered across multiple Kmart technology initiatives spanning fulfilment, customer identity, and frontend delivery, where operational reliability and change velocity both mattered.

- Helped replace Kmart's legacy online stock on hand system with a new service that enabled click and collect during COVID lockdowns, while materially improving performance and reliability.
- Delivered across backend services and customer-facing experiences, contributing across platform and product work in a large retail environment.
- Delivered the OnePass account integration and supporting identity work, helping move the initiative from early spikes into production delivery.
- Worked on systems that had to stay dependable through releases and peak demand, which strengthened my focus on safe rollout, production readiness, and operational discipline.

Tech: TypeScript, DynamoDB, Amazon Kinesis, Lambda, GraphQL, React, API Gateway, SNS/SQS/S3, CloudFront, EC2, Pactflow, AWS

EDUCATION

University of Sydney

Double Major in Computer Science and Information Systems

2013 - 2016

- Built a technical foundation across algorithms, distributed systems, databases, and software engineering.
- Studied artificial intelligence before the current AI wave, which now informs how I approach modern AI-enabled systems.
- Computer Science gave me strong technical grounding, while Information Systems helped me think more clearly about how

EARLIER EXPERIENCE

Boltech

Software Engineer

CONSULTING ENGAGEMENT VIA DIUS

Apr 2020 - Jul 2020

Worked across mobile and backend delivery for a digital warranty and insurance product, contributing to feature work, API implementation, and testing workflows.

Tech: Flutter, Node.js, MongoDB, AWS Services

technology fits real organisations and products.

- That combination still shapes how I work today: technically deep, but always tied back to practical outcomes and delivery context.

University of Melbourne

Software Engineer

CONSULTING ENGAGEMENT VIA DIUS

Sep 2019 - Dec 2019

Built features for a space management application and worked directly with stakeholders to shape improvements that supported operational decision-making.

Tech: TypeScript, React, GraphQL, Apollo, TypeGraphQL

Powersensor

Mobile Software Engineer

CONSULTING ENGAGEMENT VIA DIUS

Jul 2019 - Sep 2019, Jan 2020 - Apr 2020

Worked on a Flutter mobile app that helped customers set up and manage energy monitoring devices, with a strong focus on delivery speed and product usability.

Tech: Flutter, Dart, Bitrise

eMersion Media

Software Engineer (Contract)

Feb 2019 - Jul 2019

Helped deliver a new mobile publishing product in Flutter under tight timelines, contributing across both application and supporting backend work.

Tech: Flutter, Dart, Node.js, AWS Lambda, Bitrise

FairDigital

Software Engineer

Feb 2018 - Feb 2019

Worked on software delivery in an early product environment, building the broad base that later carried into consulting and platform work.

Tech: backend services, web product development, delivery collaboration

MonPurse

Web Developer

Apr 2017 - Dec 2017

Built ecommerce-facing web features and gained early hands-on experience shipping product work in a customer-facing setting.

Tech: Web development, ecommerce product delivery

InnuendoDigital

Web Developer

Sep 2016 - Apr 2017

Early professional role building web experiences and learning the practical foundations of delivery, iteration, and client work.

Tech: Web development, client delivery