David Sha

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EXPERIENCE

Amazon Web Services (AWS)   Sydney, NSW
Software Development Engineer Intern   *Dec. 2024 – Feb. 2025*
- Developed a new internal Operations Console feature reducing operator's production issue RCA time from 15 minutes to 1 minute per incident (20-30 incidents/day); also unblocking legacy console deprecation.
- Delivered an efficient solution to scanning log messages for a high-availability internal service, by enabling long polling and caching of CloudWatch Log Insights queries.
- Integrated CloudWatch service to two existing internal services using GraphQL, AWS SDKs and Coral models.

Sincidium   Melbourne, VIC
Associate Software Engineer   *Jan. 2024 – Jul. 2024*
- Reduced Docker image sizes for frontend and backend services, achieving a total size 1/8th of its original size.
- Introduced Docker BuildKit's multi-stage builds, leading to $10\times$ speedup in build times.
- Proposed and implemented company-wide policy on linters and formatters (ESLint, Black, isort, Flake8, mypy).

Software Engineer Intern   *Sep. 2023 – Jan. 2024*
- Introduced a new CI pipeline in GitHub repository to automate backend API tests using pytest.
- Led the design and implementation of a Next.js dashboard to support the flagship product.

The Joinary   Melbourne, VIC
Developer   *June 2021 – June 2024*
- Synchronised customer order data between 3 SaaS tools using Zapier for a large manufacturing client.
- Integrated two platforms for Lüp using Python and AWS Lambda syncing over 5000+ participants over two years.
- Implemented a business workflow from ideation for Hero HQ which has since been used daily for over 3 years.

PROJECTS

Scheduler Web Application ([Link]) | *Fullstack, TypeScript, FastAPI, Vite, Docker*   June 2024 – Present
- Active maintainer of a growing open source task management solution with 30+ stars on GitHub.
- Implemented a CI/CD pipeline for automated testing and deployment utilising self-hosted runners, reducing manual overhead and ensuring code stability across releases.
- Maintained a comprehensive backlog of tasks using GitHub Projects, facilitating clear project direction.

Home Lab | *Kubernetes, Docker, Linux, Proxmox, Restic, Rclone*   Feb. 2021 – Present
- Created a home lab to self-host a number of apps i.e. password manager, file hosting, VPN server.
- Implemented 3-2-1 backup strategy using Backblaze B2, restic, rclone and a Raspberry Pi.
- Migrated frequently-used services from Docker to Kubernetes using Helm charts for scalability concerns.

Certified Expert at n8n | *Python, JavaScript, YouTube, Oracle Cloud, AWS*   Aug. 2022 – Apr. 2024
- Created content (tutorials) for the official n8n YouTube channel amassing 1.5k+ views per week per video.
- Managed 3 n8n instances through both AWS EC2 and Oracle Cloud – 2 instances still actively in use.
- Developed custom n8n node for a client leading to 200+ user downloads from npm registry in total.

Remote Procedure Call Framework ([Link]) | *C, GNU make, Valgrind*   Apr. 2023 – May 2023
- Designed and implemented an API, enabling function execution on a remote server.
- Implemented serialisation/deserialisation of a nested data structure, crucial for protocol communication.
- Utilised Valgrind memcheck to detect and resolve all memory leaks from the client and server.

EDUCATION

The University of Melbourne   Melbourne, VIC
Master of Information Technology in Artificial Intelligence   *Feb. 2024 – Nov. 2025*

The University of Melbourne   Melbourne, VIC
Bachelor of Science in Computing and Software Systems   *Feb. 2021 – Nov. 2023*

TECHNICAL SKILLS

Languages: Python, C, Java, Kotlin, JavaScript/TypeScript, Haskell/Prolog
Frameworks: FastAPI, Next.js, TailwindCSS
Developer Tools: Kubernetes, Docker, React, Git, GNU make, Valgrind, AWS, Oracle Cloud, n8n, Restic