

Ashwath Kannan

+91-9997044783 | ash.me.cse@gmail.com | linkedin.com/in/ashwathkannan2k3 | github.com/Ash-2k3 | Portfolio

SUMMARY

Backend Software Engineer with hands-on experience building and scaling production systems for global expense management products. Proven track record of delivering impactful features, reducing engineering overhead through automation, and improving system reliability. Experienced with Python, Flask, REST APIs, SQL, AWS, and Angular. Open-source contributor and Google Summer of Code alumnus.

EXPERIENCE

Sage (formerly Fyle, acquired July 2025)

Nov 2024 – Present

Software Engineer (Backend)

Bengaluru, Karnataka, India

- Built self-serve internal tooling (Appsmith) for Customer Support to manage high-volume corporate card operations (card merges, number updates), eliminating developer intervention and reducing related support requests from **30+/month to near zero**.
- Identified root cause of 50%+ duplicate corporate card creation stemming from concurrent Amex and Yodlee feed activity; engineered auto-conversion and deduplication logic across both card ingestion flows.
- Delivered a suite of Amex Virtual Card improvements — CRUD notification system, card detail editing, and monthly spend limit enforcement — driving **100%+ growth in virtual card usage** within one month of release.
- Hardened a corporate card data pipeline by integrating GPG-based public/private key encryption and configuring Docker volume mounts for secure production secret management.
- Investigated a payment processor duplicate transaction ID issue through production data analysis; authored an Engineering Design document and landed on a data-backed solution.

Oppia Foundation

Jan 2023 – Aug 2025

Software Developer & Contractor (Volunteer/Remote)

Mountain View, CA, USA

- Led a team to resolve high-priority issues using Angular, Apache Beam Jobs, and Python within the Oppia open-source learning platform.
- Authored technical tutorials on Beam Jobs and debugging workflows, simulating real-world engineering challenges for onboarding contributors.
- Ensured tutorial accuracy and implementation alignment through close collaboration with core maintainers and the development team.

EPACK Prefab

Jul 2024 – Oct 2024

Software Engineer Intern

Noida, Uttar Pradesh, India

- Built an auto-generation tool for STAAD structural file syntax, reducing building design time from **10 days to 2-3 days**.
- Deployed the first phase on AWS EC2 with Gunicorn and Nginx; conducted code reviews to ensure quality and maintainability.

PROJECTS

Google Summer of Code 2023 – Oppia Foundation | Python, Angular, TypeScript

May 2023 – Nov 2023

- Developed 6 full-stack features for Oppia's contributor dashboard, enhancing the translation review workflow and **increasing efficiency by 60%**.
- Collaborated with the Design Team on UI/UX, conducted user surveys to drive product decisions, and improved unit test coverage by **10%**.

OONI-ChainWatch – Certificate Transparency Submitter | Python, Cryptography, Let's Encrypt CT Log

- Developed a Python script to extract and parse X.509 certificate chains from OONI web connectivity measurements using `gzip` and `json` libraries for efficient `.jsonl.gz` file processing.
- Submitted valid certificate chains to Let's Encrypt's CT log with rate-limiting, exploring real-world certificate transparency pipelines.

Mobile Paint App | Kotlin, Android Studio, XML, Android Canvas

- Designed and implemented custom drawing tools (paintbrushes, color palettes) using Android's Canvas framework with XML layouts.
- Integrated bitmap image processing for image imports and implemented undo/redo functionality using Android's lifecycle management.

TECHNICAL SKILLS

Languages: Python, TypeScript, Kotlin, SQL, Bash

Frameworks & Libraries: Flask, Angular, Apache Beam, REST APIs

Infrastructure & DevOps: AWS (EC2), Docker, Nginx, Gunicorn, Grafana

Databases & Caching: PostgreSQL, Redis, Performance Tuning

Tools & Platforms: Git, GitHub, Appsmith, Sendgrid, Linux

Concepts: Microservices, API Design, System Reliability, Encryption (GPG), Certificate Transparency

EDUCATION

Quantum University

Bachelor of Technology in Computer Engineering

Aug 2022 – Jul 2025

Roorkee, Uttarakhand, India