

# ASHISH KOSANA

Software Engineer — Backend & Full-Stack

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## SUMMARY

Backend & full-stack software engineer (B.S. Computer Science, UMass Lowell, Dec 2025) who ships production features end to end — Python **AWS Lambda / DynamoDB** services behind **REST APIs**, plus cross-platform Flutter clients. Owns a feature from infrastructure-as-code (**AWS CDK / IAM**) to UI, with a high testing / CI bar (hexagonal architecture, pytest, mypy --strict, GitHub Actions). A software engineer who uses LLMs as an engineering tool — not an ML specialist.

## SKILLS

- **Languages:** Python, Dart, SQL, Bash
- **Backend & APIs:** REST API design, FastAPI, SQLAlchemy / SQLAlchem, OAuth2 / JWT auth (AWS Cognito), Stripe payments, hexagonal (ports & adapters) architecture, pydantic v2, rate limiting
- **Cloud & Infrastructure (AWS):** Lambda, DynamoDB, API Gateway, Cognito, AWS CDK (infrastructure-as-code), EventBridge, Secrets Manager, IAM, S3, serverless
- **Data & Storage:** DynamoDB (userId-partitioned), Postgres, SQLite, SQL
- **Testing & Quality:** pytest, unit & integration testing (~82% coverage), test doubles / fakes, mypy --strict, ruff, OWASP Top 10 security review, evaluation harness (precision / recall / F1)
- **DevOps & Tooling:** Git, PR-review workflow, CI/CD (GitHub Actions), Docker & docker-compose, CLI tooling
- **Mobile:** Flutter (cross-platform iOS / Android)

## EXPERIENCE

### Software Engineer Intern — Crewtron

Tempe, AZ · May 2026 – Present

- Shipped **clock-in/out with geofence auto-tracking and a live crew map** end to end — Flutter UI, Python **AWS Lambda**, and **DynamoDB** — with role-scoped crew visibility and presence-based auto clock-in.
- Designed **REST APIs secured with AWS Cognito** and provisioned the backend as code with **AWS CDK** and scoped IAM policies; built merchant **review-request flows** over email / SMS.
- Built cross-platform **Flutter features on the Stripe API** (invoicing, quotes, payments) and a **UTC timezone pipeline** powering a timezone-aware calendar.
- Raised quality through structured QA, **OWASP Top 10 security review**, and disciplined Git / PR workflow; authored an **API integration-test suite reaching ~82% coverage** and integrated LLM-based automation into internal tooling.

## PROJECTS

**review-lens — self-verifying, multi-lens code-review tool** · Python · ports/adapters · pydantic v2 · CLI + GitHub Action  
[github.com/Ashishkosana/review-lens](https://github.com/Ashishkosana/review-lens)

- Runs an **LLM across multiple independent review lenses**, then applies a **self-verification pass** that double-checks every finding before flagging it — trading recall for precision.
- Built on a **ports/adapters architecture** with pydantic v2; ships as both a **CLI and a GitHub Action**.
- Includes a **precision / recall / F1 evaluation harness** over a labeled diff dataset that quantifies the verify pass's precision lift.
- **74 tests**, ruff + mypy --strict, CI green.

**career-copilot — job-search agent on AWS serverless (deployed live)** · Python · AWS CDK · Lambda · DynamoDB · API Gateway · Cognito

[github.com/Ashishkosana/career-copilot](https://github.com/Ashishkosana/career-copilot)

- Serverless backend defined as code in **AWS CDK**: a daily **EventBridge** cron Lambda plus a read-API Lambda behind **API Gateway** with a **Cognito authorizer**.
- Persists to a **userId-partitioned DynamoDB** table and stores third-party keys in **Secrets Manager**.
- Hexagonal Python core with **DynamoDB store, job-source, LLM-reply, and Gmail adapters**; pipeline triages Gmail, scores job matches, and drafts replies via an LLM. **53 backend tests** using fakes.

**snip — URL-shortener API (pure backend / systems)** · FastAPI · SQLAlchemy · Docker · no LLM

[github.com/Ashishkosana/snip](https://github.com/Ashishkosana/snip)

- Hexagonal core with a **dependency-free base62 codec** and collision-safe code generation; a **StorePort protocol** backed by interchangeable SQLite and in-memory stores.
- Per-IP **token-bucket rate limiter** (429 on exceed), 307 redirects with click counting, and **TTL expiry** (410).
- **28 tests**, ruff + mypy --strict, Dockerized with docker-compose and CI.

## EDUCATION

**B.S. in Computer Science — University of Massachusetts Lowell**

Graduated Dec 2025

GPA 3.51 / 4.00 · Dean's List · Transferred from SR Institute of Technology (JNTU), Hyderabad to complete the B.S.