

Ashay Kargaonkar

Software Engineer · Backend

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Summary

Backend Engineer with **3+ years** of experience building scalable, high-performance **REST APIs** using **.NET 8** and **ASP.NET Core**. Experienced in designing cloud-native systems on **AWS** (DynamoDB, S3, Lambda, Cognito) with a focus on performance, reliability, and efficient data access patterns. Strong in **asynchronous processing**, **distributed system design**, and secure authentication using **OAuth 2.0** and **JWT**.

Skills

Languages & Frameworks	C#, .NET 8, ASP.NET Core, Entity Framework Core, REST APIs, Swagger
Cloud & Infrastructure	AWS (DynamoDB, S3, Lambda, Cognito, EC2, App Runner), Docker, GitHub Actions CI/CD
Databases	DynamoDB (PK/SK Design), SQL Server, MySQL
Auth & Security	JWT, OAuth 2.0, OIDC, AWS Cognito
Other	Async Programming, Distributed Systems, Logging & Monitoring, React, Next.js

Experience

Software Engineer

Mar 2022 – Jun 2025

Tata Consultancy Services (Client: United Airlines) · Chicago, USA

- Designed and developed scalable **REST APIs** using **.NET 8 / ASP.NET Core MVC**, implementing secure **JWT-based authentication** and integrating AWS services including **S3** and **DynamoDB**, supporting **1.5 M+ daily users**.
- Led migration of **21 M+ records** from SQL Server to DynamoDB with zero data loss, designing optimised **PK/SK access patterns** for efficient, high-throughput querying.
- Migrated legacy .NET applications to **.NET 8** through architectural refactoring, improving performance, maintainability, and system reliability.
- Implemented secure authentication and authorisation flows using **JWT**, **OAuth 2.0**, and **AWS Cognito (OIDC)**.
- Maintained and optimised backend systems under high load, improving API performance and reliability through profiling, caching strategies, async patterns, and distributed design including message queuing and retry mechanisms.

Data Analyst Intern

Jan 2021 – Mar 2021

Instahub LLC · Philadelphia, USA

- Analysed **AWS RDS** sensor data using **MySQL** to identify occupancy and device usage patterns, contributing to a **20% improvement** in electricity efficiency.
- Built **predictive models** in Python and R to forecast energy consumption trends, with visualisations in Matplotlib and Tableau to support data-driven decision-making.

Projects

ThinkMoves — Chess scoresheet digitisation tool using Computer Vision and .NET backend

Jun 2025 – Present

www.thinkmoves.com

- Designed and developed **scalable backend services** using **.NET 8 / ASP.NET Core** for processing user-uploaded data, with secure **JWT** authentication and **AWS Cognito (OIDC)**.
- Architected an **asynchronous, event-driven image ingestion pipeline** using **AWS Lambda + S3**, with structured error handling, retry mechanisms, and dead-letter queue support.
- Designed **DynamoDB schemas** with optimised PK/SK access patterns for high-performance storage and retrieval of structured output data at scale.
- Containerised all services with **Docker** and automated deployments via **GitHub Actions CI/CD**, enabling zero-downtime releases and consistent environments across stages.
- Built a **React / Next.js** frontend integrated with backend APIs, managing state, file uploads, and real-time processing feedback for end users.
- Applied **logging and monitoring** best practices using AWS CloudWatch to track API performance, error rates, and pipeline health in production.

Education

Master of Science in Computer Science

Sep 2019 – Aug 2021

DePaul University, Chicago, USA

Bachelor of Engineering in Computer Engineering

Jun 2013 – May 2018

Vishwakarma Institute of Information Technology, Pune, India