Chandra Sivaraman

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ABOUT

I am a software architect and engineer with over two decades of experience. I have architected and built backends for movie ticketing, mortgage banking, and hedge funds. My experience centers around nodeJS, .NET, AWS, SQL Server and Elasticsearch.

In my most recent role at Fandango, I architected and implemented parts of the core ticketing engine, public facing APIs, backoffice automation jobs and admin tools. I was responsible for rearchitecting on-premises data loaders as serverless applications.

At previous jobs, I architected and implemented mortgage loan securitization engines, data reconciliation and P&L automation, and queueing and task processing middleware.

I enjoy backend architecture, and software engineering aspects - patterns, principles and best practices that make it easy to write, test and modify software. I love building tools and utilities whether it is for automation or efficiency. I'm curious about languages, stacks and tools so that I may use the best tool for a given job.

In my spare time, I write (tech articles, daily journal, fiction), travel, and practice my photography skills.

TECH SKILLS

- **Languages:** C#, JavaScript
- **Frameworks:** nodeJS, .NET Core, ASP.NET MVC, Web API
- **Testing:** xUnit, Jest
- **Databases:** SQL server, ElasticSearch
- **Cloud:** AWS (lambda, step functions, Eventbridge, EC2, SQS), Terraform

WORK EXPERIENCE

Jul 2012-current Staff Engineer at Fandango, Beverly Hills, CA

- Architected and implemented movie ingestor serverless application to load realtime JSON data from internal movie feed into relational database in response to data modification events. This data was used on the discovery and ticketing sites and by admin tools and jobs. | **nodeJS, SQL Server, AWS lambda, Eventbridge, SQS, Terraform**

- Rearchitected data loaders from on-premises ASP.NET application to serverless applications for cost savings and scalability. | **C#, .NET Core, AWS lambda/step functions, SQS, Terraform**
- Designed and built an admin front end for seat maps to enable exhibitor services to mark special seat types (recliner etc) and group and link seats sold as a unit (couch, love seats) | **jquery, JavaScript**
- Built SQL & C# parsing utilities to scrape and inventory SQL procedure references in C# code, and SQL object references in SQL procedures. Thus, the object access required by SQL procedures could be curtailed in accordance with least privilege. | **C#, Roslyn, TSql parser API**
- Architected and implemented sales tax calculation job using AWS step functions and lambda. Resiliency and error recovery were obtained using backoff and retry features of step functions. | **C#, .NET Core, AWS lambda/step functions, Terraform**
- Architected and implemented over multiple projects, public APIs and microservices for ticketing, returns, loyalty and reserved seating. Built a nodeJS aggregation layer on top. | **nodeJS, C#, .NET, Web API, Elastic Search, SQL Server, AWS, Docker, Terraform**
- Rearchitected backend for mobile ticketing flows using ASP.NET MVC. Consolidated multiple flows (one per mobile platform) into a single responsive flow. Designed Ajax service layer to enable async calls on front end. Refactored backend code to separate business logic from presentation code and built unit test suite. | **C#, .NET, ASP.NET MVC, SQL Server, JQuery, xUnit, Moq**
- Designed and implemented job to cleanse PCI/PII transactional data in accordance with data retention policy. Used data-driven design to enable modifications to cleansing rules without code changes. | **C#, .NET, ASP.NET, SQL Server**
- Designed and implemented store credit feature. Used decorator pattern to recalculate applied credit as payment methods are added/removed. | **C#, .NET, ASP.NET, SQL Server**
- Designed and implemented dynamic service fee lookup engine. Rules were maintained in the database in JSON format, to give users the ability to modify as required. | **C#, .NET, ASP.NET, SQL Server**
- Designed and prototyped customer service chatbot to handle common queries. The goals were to reduce turnaround time and lower costs for customer service requests. Since LUIS was expensive, used adaptive cards to filter out requests that didn't need it. | **nodeJS, adaptive cards, LUIS**

Feb 2010-Jul 2012 System Architect at Tennenbaum Capital, Santa Monica, CA

- Designed and implemented diff/merge tool for automated reconciliation of financial instruments across multiple systems. It improved data accuracy across the board. | **C#, .NET, WinForms, SQL Server, LINQ**
- Automated generation of real-time P&L for investment funds. A backend loader aggregated multiple feeds into a relational database and a report builder formatted data for the report. | **SQL Server, SSRS, Excel pivot tables**

Feb 2003-Feb 2010 VP Application Development at Bank of America, Calabasas, CA

- Led team designing and implementing fixed income financial models for mortgage loan securitization. Converted rough Excel models into production-quality code capable of processing half a million loans daily in time for morning trading. | **C++, ATL,**

C#, .NET, SQL Server

- Architected and implemented a metadata viewer to surface data mapping, transformation and cleansing rules for loan fields. Implemented a scraper to query and index code repositories and mapping tables in relational databases. A web front end on top of this provided an interface to query and navigate the rules, drilling down into source code as deep as required. | **C#, ASP.NET, SQL Server, Regular expressions**

Jul 2001-Jan 2003 Senior Engineer at Ocwen, Carlsbad, CA

- Architected and implemented order processing middleware for RealTrans B2B mortgage platform, providing a plugin architecture for data mapping and transmission, alongwith multithreading support. | **C++, ATL, VB, COM, SQL Server**

Jan 2000-Jun 2001 Principal Engineer at NCommand, San Mateo, CA

- Architected parts of message queue and task management middleware for B2B mortgage platform featuring load balancing, automated retries with backoff, task scheduling and resiliency around providers being offline. | **C++, ATL, VB, COM, SQL Server**

EDUCATION

1995 Bachelors, Electronics Engineering, VJTI, University of Mumbai, India

TECH ARTICLES

https://chandrasivaraman.com/