David Sandor

Software Engineer - Architect - Manager + Individual Contributor - Research

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EXPERIENCE

Northern Trust Company, Chicago (Remote)
Vice President, Cloud Architect, Lead Engineer, Manager

February 2019 - PRESENT

Responsible for Architecture of a FinTech SaaS offering. Involved in the implementation, research and development, and architecture of the product. Please see the **skills story** sheet for additional information.
Skills: AWS Native Cloud Development, GoLang, Python, JavaScript/TypeScript, NodeJS, CICD, MLOps

Cox Automotive, Atlanta — *Principal Architect*

July 2018 - February 2019

Principal Software Architect with an internally funded startup developing an online car purchase workflow for Dealer.com, AutoTrader.com, BMWUsa.com, and others. AWS SaaS based offering utilizing serverless architecture. Won the AWS Cost Optimization Award in October 2018 for saving the company 86% on AWS Costs with a serverless-based solution.
Skills: AWS Native Cloud Development, JavaScript/TypeScript, CICD, NodeJS

Car & Driver (Hearst), Atlanta — *Software Architect*

June 2017 - July 2018

Performance optimization of full stack development effort for CarAndDriver.com's digital real estate. Converted Angular 2.x web application into VueJS. Refactored Monolithic APIs into micro-services. Leveraged AWS Native Services for Server Side Rendered Nuxt.js SPA Website application.

Citadel, Chicago — *Software Architect*

August 2011 - July 2017

Architect of FinTech Fund Accounting software, Mobile Trading application for iOS and Android, and the Trading Desk Portfolio Risk Analysis software.

Various Employers, Atlanta — *Software Architect*
1995 - 2011
MDSi – Software Architect
Microsoft (Contract) - Author on various Microsoft certification exams: C#, WPF, ASP.NET, Workflow Foundation, Windows Mobile
RealTime Gaming - Software Engineer Online Gaming
Digital Evolution - Software Engineer – Security Appliance
Scientific Games - Architect – Lottery Accounting System

SKILLS

AWS Cloud – Architecture, Implementation, CICD

Research and thoughtful implementation of cutting edge technology.

Software Engineering skills across many current languages.

CICD first implementation strategy.

CERTIFICATIONS

AWS Solutions Architect (Associate)

AWS Developer (Associate)

Microsoft Certified Solutions Developer (MCSD – Old)

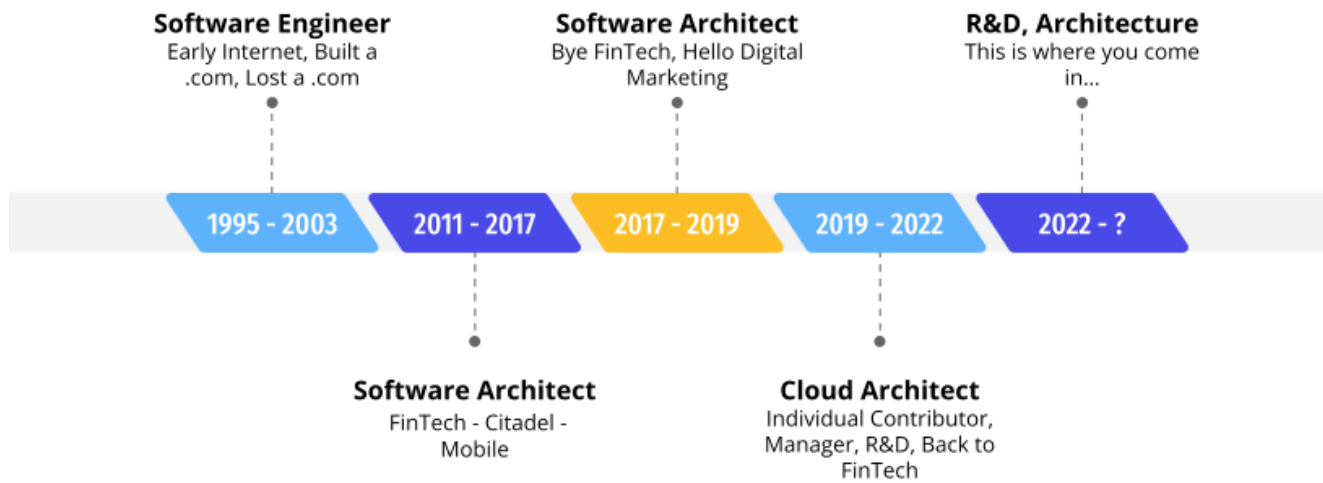**Microsoft Certified Systems Engineer** (MCSE – Old)

Microsoft Certified Trainer

Microsoft Certified Professional (Web Developer, Windows Developer, Data Access, Service Communications)

LANGUAGES

Golang, JavaScript, TypeScript, C/C++, C#, Python, Java

Work Experience Journey

Software Engineer
Early Internet, Built a
.com, Lost a .com

Software Architect
Bye FinTech, Hello Digital
Marketing

R&D, Architecture
This is where you come
in...

| 1995 - 2003 | 2011 - 2017 | 2017 - 2019 | 2019 - 2022 | 2022 - ? |

Software Architect
FinTech - Citadel -
Mobile

Cloud Architect
Individual Contributor,
Manager, R&D, Back to
FinTech

Northern Trust
VP, Cloud Architect

01

AWS Cloud Architect - built CICD
for infrastructure. Serverless,
Fargate, Machine Learning

02

Machine Learning - Text
extraction, model training,
document classification, ML Ops

03

Data Architecture - Aurora,
Snowflake, DocumentDB,
DynamoDB, MSSQL Server, S3

04

Public API Architecture -
Support different auth
mechanisms simultaneously for
service vs client auth. mTLS,
Okta, Cognito

At Northern Trust my role is one of a Software Architect however I am integrated into every aspect of the software development process. I helped **develop the CICD infrastructure** on Gitlab for continuous deployments to our AWS environments. Connected CICD Pipelines to Slack for slack command based control. Architected our **event driven design** to allow easy extensibility of our application. **Architected and designed our Micro Front End approach** for both web based and electron based applications. I architected and **developed our API approach** for web based **JWT** clients and **mTLS** based service to service clients.

In addition to contributing code and architecture expertise to the project I also built a series of Proof of Concepts that functioned as the baseline for customer impacting features. I **designed and developed a Machine Learning feature** that turned into an end user feature. I **built a chat integration feature** that added support chat capabilities to the web and electron applications which leveraged Slack as the back end for employees. I also built a Kafka to AWS Event Bridge service in **Golang** that bridges on prem Kafka messages to our AWS Event Bridge for allowing messaging between the cloud and internal systems. Additionally, I built a **Change Data Capture** (CDC) service in **Golang** to track changes to data in a MSSQL Server and broadcast the changes on **AWS EventBridge** to allow for cloud apps to interact with data changes using native AWS eventing technologies.

01
FinTech Architect - architected a complex hedge fund accounting software package for very large and complex organizations.

02
Software Security - Invented and built high-speed industry advanced security into the accounting application.

03
Event Driven Design - WebSockets based event message bus for delivering real time data updates.

04
Data Architecture - Build and design the data architecture, database schema, and database CICD platform.

Citadel
Software Architect

At Citadel I was part of a very small team of developers that were tasked to **architect and build** from ground zero a very complex **fund accounting software** package. This software package was the key accounting and reporting software used by Citadel as its primary accounting tool for its hedge funds. The application also provides internal and client facing performance reports. In addition to Citadel using the software it was also licensed and used by Northern Trust Bank to support its many clients. This fund accounting software was built in .NET WPF and included a sophisticated dynamic calculation engine which shortened accounting computations across complex fund structures from days to seconds.

As **Architect and Senior Software Engineer** I worked with 4 other developers to build the application and all of the **CICD pipelines**. I was integrated into every aspect of the project from requirements gathering to writing code.

After the project reached critical mass I moved to the **Global Equities Front Office** team to architect and develop an **equity trading mobile application** with real-time data updates and a portfolio risk dashboard used by the trading desks at Citadel. The mobile application development team consisted of **myself and one contractor**. We built the application, back end services, and deployed the application to **production in three months**. This was a testament to the speed and voracity with which we developed this mobile application. The portfolio risk dashboard was **built in React** and made into a desktop application with OpenFin (a fork of **Electron**). This application broke new ground and incorporated new technology in desktop hybrid applications. We also provided groundbreaking **remote support capabilities** into the desktop application that allowed the development team to troubleshoot issues using **live screen grabs** that shortened the problem resolution window and increased the capacity of the very limited 5 person team. The mobile application leverages React Native for the UI and NodeJS for the backend services. The hybrid desktop application leveraged React for the UI and NodeJS for the backend services.