indium
Make Technology Work

Indium helps VC-funded Indian Fintech Startup create more holistic customer profiles

Technology Stack

Apache Airflow, AWS S3, AWS EC2, Spark, Cassandra, AWS Athena, AWS ECS/EKS, AWS RDS (Postgres), AWS Quicksight

Team Size

1 Project Manager, 1 Lead Data Engineer, 2 Data Engineers, 1 Data Analyst / Data Modeler, 1 Data Visualization Engineer

Delivery model

Offshore

Project Duration

6+ months (Ongoing)

CHALLENGE:

A significant percentage of India's rural population, pegged at 850 million, that falls under the lower strata of the income pyramid is excluded from easy access to financial services. Despite Government of India's (GOI) constant push to bring them under the fold of formal financial system – with policies such as Pradhan Mantri Jan-Dhan Yojana (PMJDY), digital payment infrastructure investments among other initiatives – a big part of the population is still underserved / underbanked. Catering to the needs of this market through tailor-made offerings is key to driving financial inclusion. This is exactly the space where FinTech Startups thrive.

Favorable regulatory climate, large talent pool, growing customer base, digital payment infrastructure among other factors have aided the rapid growth of FinTech startups in India. Customers today can fulfill their financial needs through contactless, digital, and remote channels – far cry from the customer experience offered by traditional banking systems. With investments pouring in, FinTech players continue to focus on strengthening their tech and data analytics solutions to power service / product offerings targeted at rural population, women, and MSMEs.

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> Driving financial inclusiveness continues to be a top priority for India to achieve the target of becoming a USD 5 trillion economy and meet the UN-identified Sustainable Development Goals (SDGs)
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> - PwC report – FinTech for the underserved, Sep 2021

Backed by top Global VCs, the Client is a leading Indian FinTech Startup that serves over 16 MN underbanked customers from the informal sector. Goal-based savings, inclusive payments, ML-based automated credit health check, credit services platform are some of its key products /services aimed at increasing usage of formal financial services by the underserved. With new rounds of investment flowing in, the client decided to drive the below objectives:

- **Build holistic customer profiles** – Enrich customer profile with data from new FinTech Partners before making it available for downstream credit health check ML model processing. This would help build holistic profiles of a larger group of population with additional parameters that eases underwriting.
- **Modernize its data analytics platform** – With expansion of customer base and tailored product offerings, the client realized the need for a modern data analytics platform that is scalable, secured, cost-efficient and performant.
- **Deliver Strategic Insights** – Build dashboards that offer strategic and operational insight for key business teams.

The client was keen to partner with a digital engineering services firm with strong capabilities across Cloud, Big Data Analytics and AI/ML. Post analysis, the client deputed Indium Software to achieve the abovementioned objectives and modernize the homegrown data analytics platform to take advantage of the scalability, cost efficiency and innovative cloud-native features offered by AWS.

SOLUTION:

Post requirements gathering, Indium had a fair idea on the business objectives and the rationale behind tech stack chosen by the client. It was mutually agreed to modernize the new platform, build ETL pipelines and load data from new FinTech partners to build new customer profiles and enrich existing ones, before moving on to building dashboards / reports. Given below are key highlights of the solution designed and delivered.

- The AWS infrastructure was spin up to host the open-source services part of the tech stack – Cassandra, Airflow – and other native AWS services.

- Data from FinTech partners was first staged in AWS S3, and then cleansed.

- This cleaned data was then processed for downstream credit health check ML model and loaded into Cassandra.

- Cleaned data from S3 was aggregated and loaded into AWS RDS (Postgres) for consumption by AWS Quicksight.

- All data processing was handled using Spark ETL pipelines that ran on top of scalable analytics infrastructure.

- The entire data & analytics solution was containerized using AWS ECS to ensure it can be deployed in end client's choice of cloud.

- AWS Quicksight dashboards were built to glean insights on business operations, emerging patterns that drive new product features among other things strategic initiatives by key business leaders.

BENEFITS:

- **Future-ready analytics platform** – Partners can now achieve 100% integration of client's latest APIs and newer versions with just 3 lines of code change, much lesser than the aspirational target of 5 lines of code change.

- **Holistic customer profiles** – With customer profile enriched with data from additional partners, the credit health check ML model offers more customers profile info through new parameters not available previously.

- **Faster insights** – The new dashboards / reports offered quicker insights on business operations and new emerging patterns that drove creation and launch of new product features / services.

> Prompt in their engagement with us, Indium has been a good partner to work with as we set up advanced data pipelines designed to handle larger scale data for our data modeling and risk management flows. They have shown expertise in AWS from a data and analytics perspective.
>
> - Co-Founder
> VC-funded Indian FinTech StartUp

ABOUT INDIUM

Indium Software is a leading provider of Digital Engineering solutions with deep expertise in Application Engineering, Data and Analytics, Cloud Engineering, DevOps, Digital Assurance and Gaming.

Over the past decade, Indium has built strong relationships with over 100 clients spanning ISVs, Global 2000 as well as born-digital companies across North America, India, Europe and the Asia-Pacific region, and with ecosystem partners such as AWS, Mendix, Striim, Denodo and Claris.

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