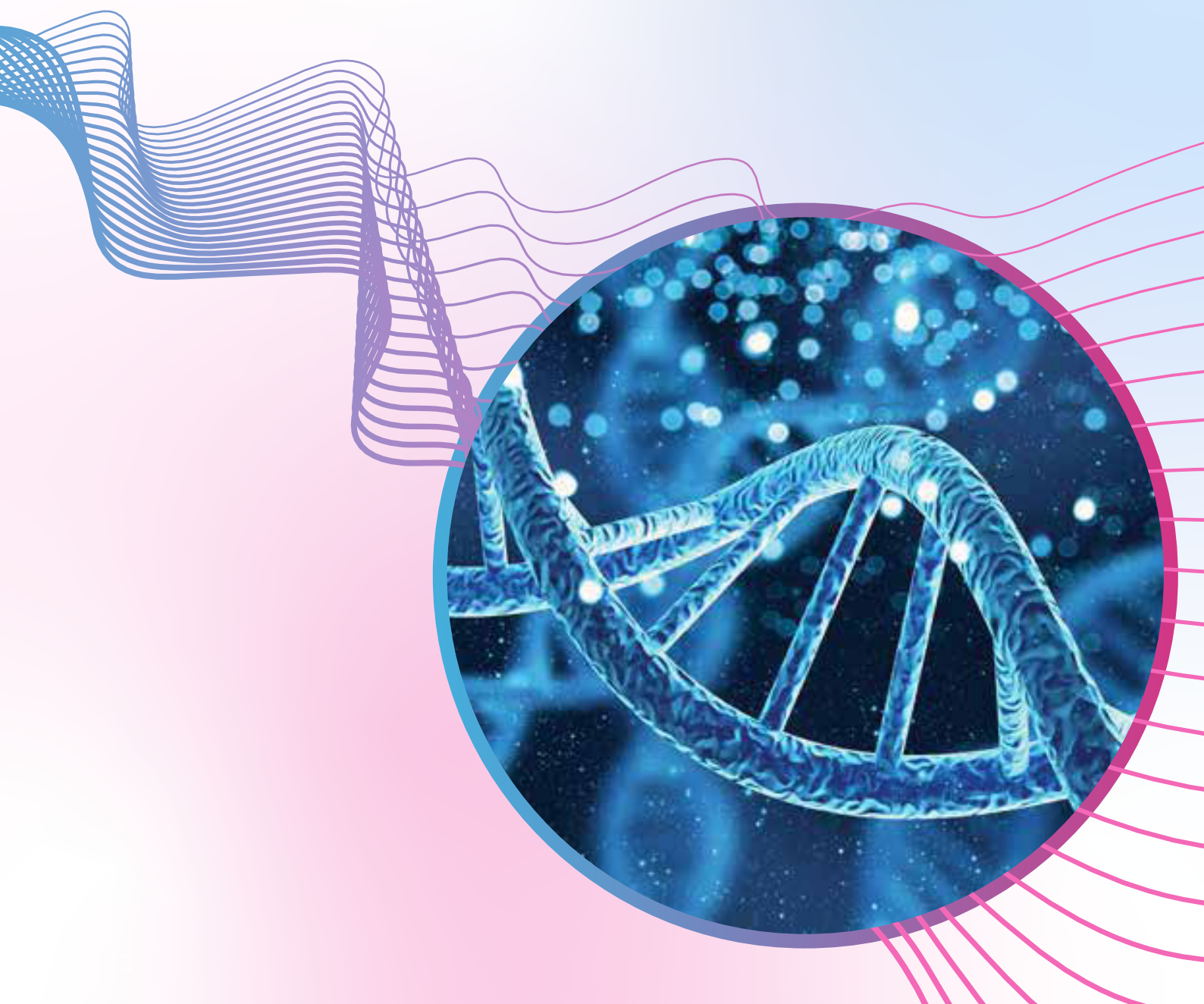# excelra

Gene visualization platform

CASE STUDY

Purpose

To develop a user-friendly genomic data visualization tool with an ability to explore, interrogate, analyze, interpret and evolve a hypothesis in discovery programs for expert geneticists and discovery scientists.

Client

Industry
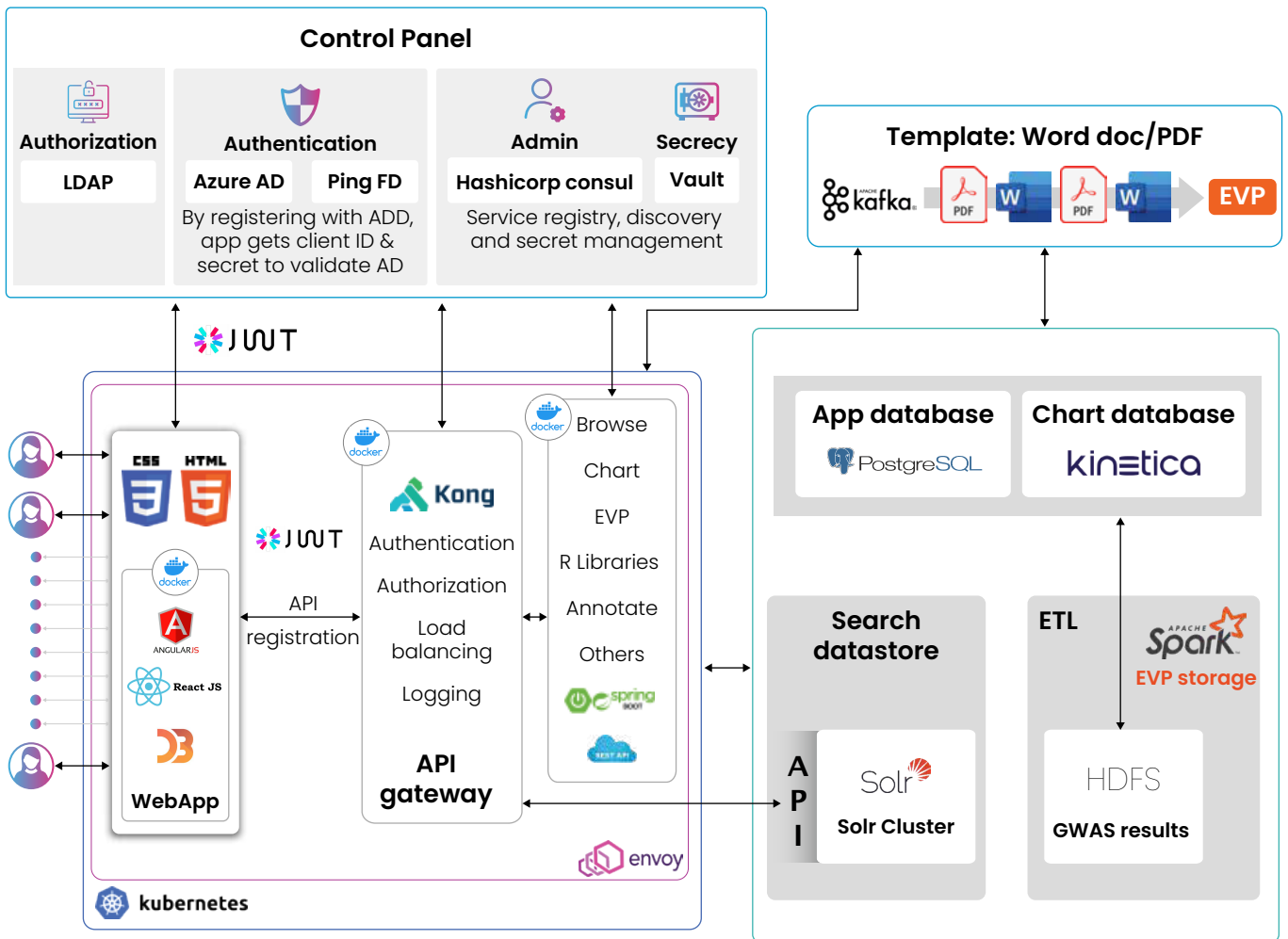Pharmaceutical and biotechnology

Location
US

Sector
Consumer healthcare

Excelra approach

The Gene Visualization Tool was designed to provide a solution that can display various visualizations of Genome Wide Association Study (GWAS) results that are already stored in Data Lake databases, based on user choices (such as disease and/or gene of interest).

Architecture

Control Panel

Authorization	Authentication		Admin	Secrecy
LDAP	Azure AD	Ping FD	Hashicorp consul	Vault
	By registering with ADD, app gets client ID & secret to validate AD		Service registry, discovery and secret management	

Template: Word doc/PDF

kafka | PDF | W | PDF | W | EVP

JWT

kubernetes

WebApp
CSS · HTML · docker · ANGULARJS · React JS

JWT

API registration

Kong
Authentication
Authorization
Load balancing
Logging

API gateway

docker
Browse
Chart
EVP
R Libraries
Annotate
Others
spring boot
REST API

envoy

App database
PostgreSQL

Chart database
kinetica

Search datastore
API
Solr
Solr Cluster

ETL
Spark
EVP storage

HDFS
GWAS results

Our contribution

- The application was scalable for 1000 users at a time

- The application managed compliance requirements and provide access controls based on end-user role

- Graphing Framework (D3.js.) in the front-end services

- The visualization framework was scalable to all R&D related visualisation, like Genome browser, RNA-Sequencing, SNP visualizations

Our technology service portfolio

Enterprise data strategy	**Enterprise cloud ops**	**Enterprise digital transformation**
• Metadata & master data management • Semantic data catalogue, ontology mapping and data dictionary integration • Data unification strategy • Automated data ingestion, pipeline creation and semantic integration	• Cloud migration, infrastructure set up and management (AWS & azure) • Devops & devsecops/ MLops & MLsecops • Product ops & service ops • Data lake creation and integration support	• Scientific product development • Platform/application development • Process automations • Enterprise workflow integration • Visualisation and dash-boarding as a service

Where data means more

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