Unifying Identities. Preventing Fraud. How a leading Health Insurer Transformed Customer Trust with AI

DSW
Data Science Wizards®

About the Customer

A leading Health Insurance company that serves millions of policyholders with a strong focus on healthcare integrity, operational scale, and patient-first principles. Known for its ethical standards, the insurer is committed to delivering innovative solutions that protect both customers and the business.

The Challenge

Like many large carriers, the insurer faced a complex issue:

1 Millions of customer records without a standardized identifier. Fraudsters exploited this by slightly changing personal details – phone numbers, name spellings, or addresses to create duplicate identities and submit fraudulent claims.

2 Traditional methods couldn't keep up with the volume and made detection of anomalies in real time difficult.

3 Manual reviews were slow, resource-heavy, and couldn't scale – leading to inefficiencies, delayed onboarding, and rising fraud.

The Solution

To tackle this, the insurer partnered with DSW to deploy an AI solution purpose-built for insurance built on top of DSW UnifyAI & DSW AgenticAI.

What the solution Delivered:

Deployed AI-based identity matching to detect altered or duplicate profiles.

Generated advanced embeddings to capture similarities even when customer data was tweaked.

Built a vector database powered by HNSW indexing for real-time, high-speed search.

Implemented a chunked architecture to manage data scale and enable parallel processing.

Enabled real-time inference for instant fraud detection during policy onboarding.

Achieving 80% Accuracy in Identity Matching, 90% Drop in Manual Effort

Business Impact

DSW's purpose-built solution for insurance enabled leading health insurer to shift from reactive audits to real-time fraud prevention at policy onboarding. Manual reviews dropped, onboarding sped up, and data accuracy improved-building a foundation for smarter decisions, personalized services, and scalable growth.

Today, the leading health insurance company is recognized as a tech-forward insurer driving outcomes with enterprise AI.

Business Outcomes

- **80%** accuracy in duplicate detection.

- **90%** reduction in manual audits.

- **Real-time fraud checks** at policy issuance.

- **50%** faster onboarding.

- **70%** faster similarity search.

- **Scalable performance** across millions of records.

- **Improved compliance** and data integrity.