

# Personal AI Assistant Platform: Governed Personalization at Scale

## Business Problem



- Users faced a problem of plenty due to many choices, resulting in lower confidence and slower decision-making in daily activities
- Personalization remained fragmented across channels, leading to inconsistent experiences and repeated user effort
- Users spent significant researching, comparing options, and re-establishing context across interactions
- Low engagement and abandonment rates limited conversion, retention, and customer lifetime value
- Privacy, governance, and explainability requirements constrained the ability to scale AI-driven personalization

## Solution



- Consolidated user signals and enterprise knowledge into Delta Lake to create a unified context layer
- Built a governed User Preference & Context Profile using Unity Catalog (PII controls, RBAC, lineage)
- Leveraged LLMs and Vector Search to generate trusted, context-aware recommendations
- Orchestrated workflows to Plan → Recommend → Execute → Track with integrations to business systems (CRM/ticketing/messaging)
- Applied MLflow models for ranking, propensity, and next-best-action, improving via feedback loops
- Enable near real-time personalization with DLT/Streaming plus quality/anomaly monitoring

## Value Delivered



- ✓ **10–18% higher engagement / conversion** through context-aware recommendations
- ✓ **20–35% reduction in user effort and decision** time by minimizing repeated searches, comparisons, and unnecessary back-and-forth
- ✓ **25–40% faster personalization** cycles with near real-time ingestion, scoring, and next-best-action orchestration
- ✓ **30–50% more consistent personalization** across channels through a unified governed preference and context layer
- ✓ **40–60% less manual intervention** effort by automating ranking, workflows and decisioning under governance controls



**10-18%**

Higher Engagement & Conversion Through Personalized Guidance



**20-35%**

Lower User Effort with Faster, Simpler Decision-Making Journeys



**25-40%**

Faster Personalization Cycles via Real-Time Signals & Feedback Loops