TeamSAC

Executive Summary

TeamSAC presents the Škoda AI Skill Coach.

A complete talent intelligence system for managers, HR Business Partners, and employees.

It uses data-driven analytics and Azure AI to identify skill gaps, predict risks, map promotion paths, and forecast future skill needs across Škoda.

Our mission is simple:

- Help Škoda build a future-ready workforce.
- Reduce delays.
- Cut training waste.
- Accelerate internal mobility.

The Škoda AI Skill Coach works with the data Škoda already has and turns it into real, action-oriented insight.

The Problem

Škoda has thousands of employees with different skills, roles, and training histories.

- Today, HR and managers struggle with:
- No real-time visibility into team capabilities
- Skills gaps discovered too late
- Missing or expired certifications
- Unclear promotion readiness
- Employees are unsure about their career direction
- HRBP lacks the big picture view
- No long-term forecasting of skill shortages

These problems cause lost time, higher costs, and slower project delivery.

The Solution: Škoda AI Skill Coach

TeamSAC built a system that transforms HR data into a clear, actionable talent map.

MANAGER   HRBP   EMPLOYEE
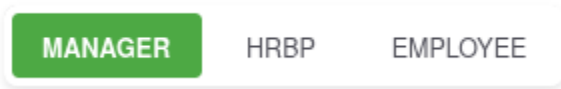
What the system does:

Manager view

- Team capability score
- Team maturity radar
- Skill risk radar
- Promotion readiness
- Top intervention actions
- Compliance alerts

HRBP view

- Org-wide skill heatmaps
- Department performance comparison
- Strategic shortages
- 5 year skill forecast
- Hiring and training recommendations

Employee view

- Visual career paths
- Readiness scores
- Required skills and courses
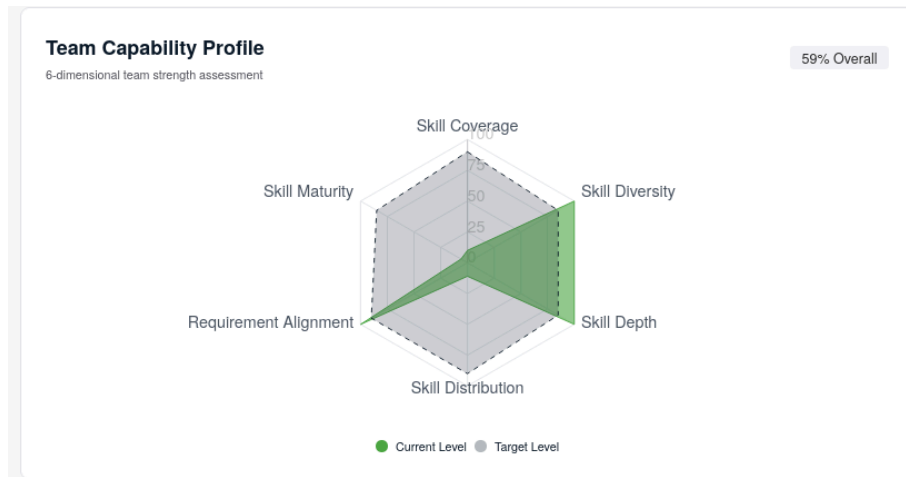- Personalized AI career coaching

AI engine

1. Uses Azure models with strict grounding
2. Provides safe and explainable insights
3. Supports the future roadmap for career development

Key Features Built by TeamSAC

TeamSAC built a system that transforms HR data into a clear, actionable talent map.
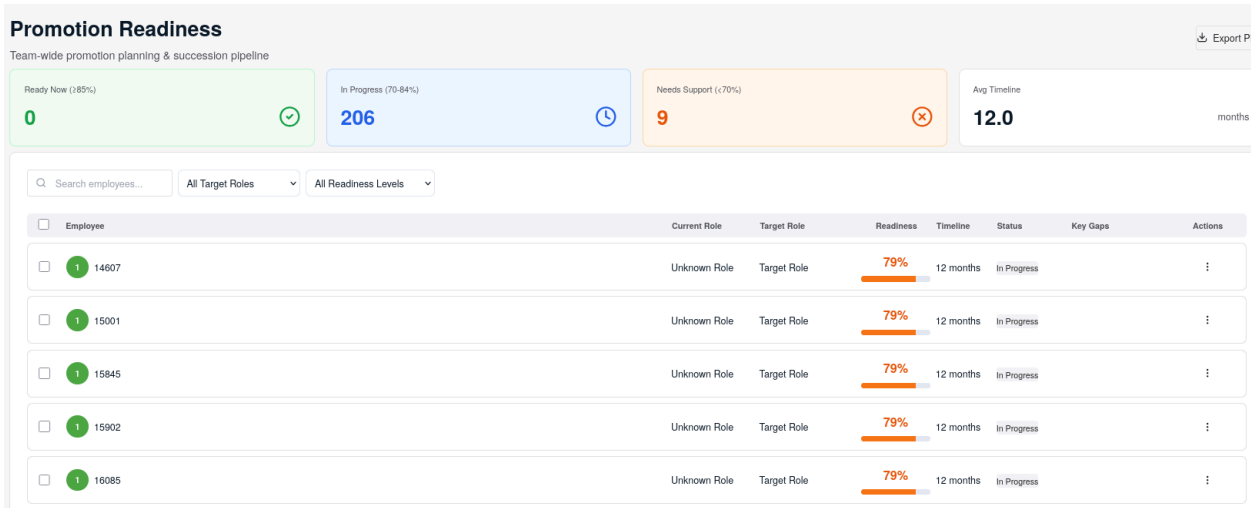
1. Team Capability Engine

A six-dimensional capability score with maturity level from 1 to 5.
Shows strengths and weaknesses instantly.
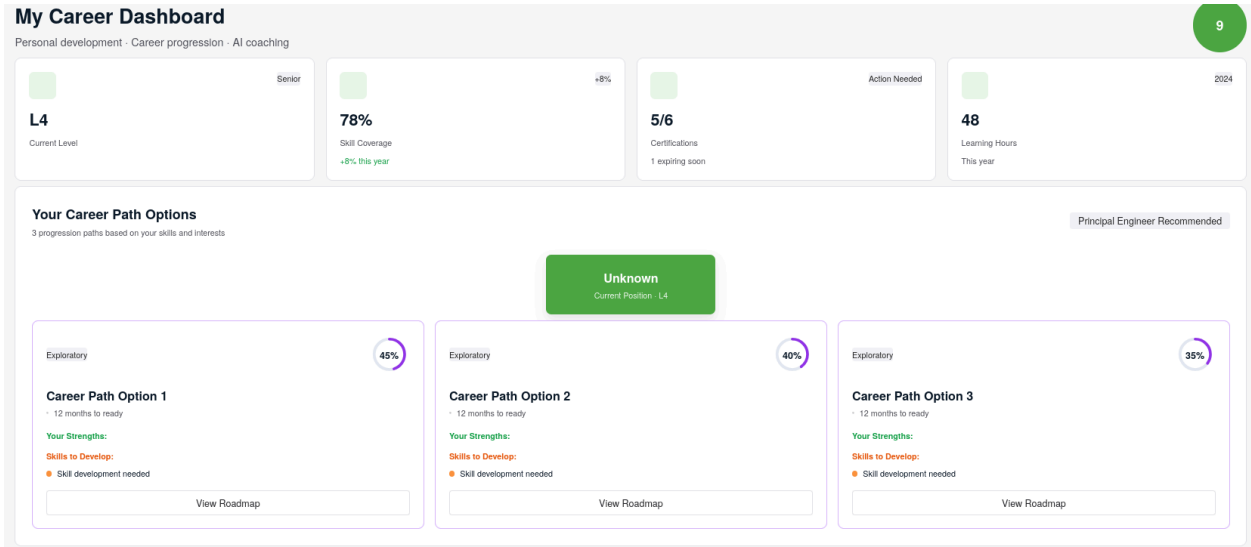
2. Skill Risk Radar

Finds expired certifications, missing learning, and skill mismatch.
Group employees by risk level.

3. Promotion Readiness Engine

Predicts readiness with a weighted scoring model based on skills, qualifications, experience, and learning.
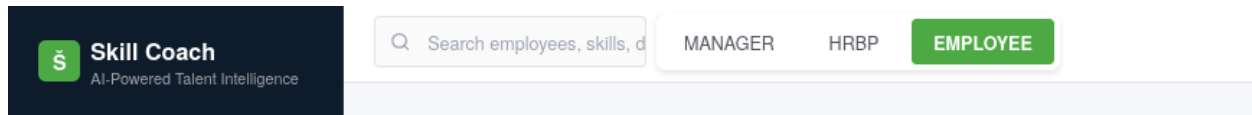
4. Career Path Mapping

Uses Azure AI to show the top three future roles for any employee, plus exact skill gaps and required training.

5. Five-Year Skill Forecast

Predicts rising and declining skills, strategic shortages, and hiring needs.

6. Multi-persona interface

One system with three experiences:

Managers
HR Business Partners
Employees

7. Clean enterprise design

Built with production-ready UI and backend design so Škoda can adopt it without rework.

Technical Architecture

- Backend: FastAPI with modular service layer

- Database: Postgres with skill, qualification, and learning models

- AI Layer: Azure OpenAI for career paths, forecasting, and an assistant

- Frontend: React Vite, Chakra UI, TanStack Query

- Caching: In-memory TTL for heavy computations

- Data processing: Deduplication and normalization pipeline

- Progressive loading: Instant load with summary endpoints

The project is clean, modular, and already structured for scaling to 20,000 employees.

What Makes TeamSAC Unique

1. End-to-end talent intelligence

   Other teams focus on one piece, like skill matching.

   We built the entire chain: capability, risk, readiness, career, and forecast.

2. Multi-persona design

   Three views for three roles.

   Managers get operational insights.

   HRBP gets strategic insights.

   Employees get career direction.

3. Enterprise alignment

   The UI and architecture fit Škoda's real internal tools.

Azure native.

The modular microservice is ready.

Expandable into SAP and SuccessFactors.

4.   Data-grounded insights

We use the 44k qualifications and 37k learning history entries to build real analytics instead of static screens.

5.   Production level UI

We avoided toy demos and gimmicks.

Everything has direct business value.

Impact for Škoda

Operational impact

- Reduced project delays from hidden skill gaps

- Faster allocation of capable staff

- Lower risk from expired certifications

- Transparent promotion pipeline

- More productive teams

Strategic impact

- Clear vision of future skill needs

- Better training investment decisions

- Skill readiness aligned to product strategy

- Stronger internal mobility

- Future workforce planning

Employee impact

- Clear career direction

- Motivation through readiness tracking

- Less frustration from unclear expectations

Roadmap Beyond the Hackathon

Immediate (0–3 months):

- Full SAP integration
- Company-wide dashboards
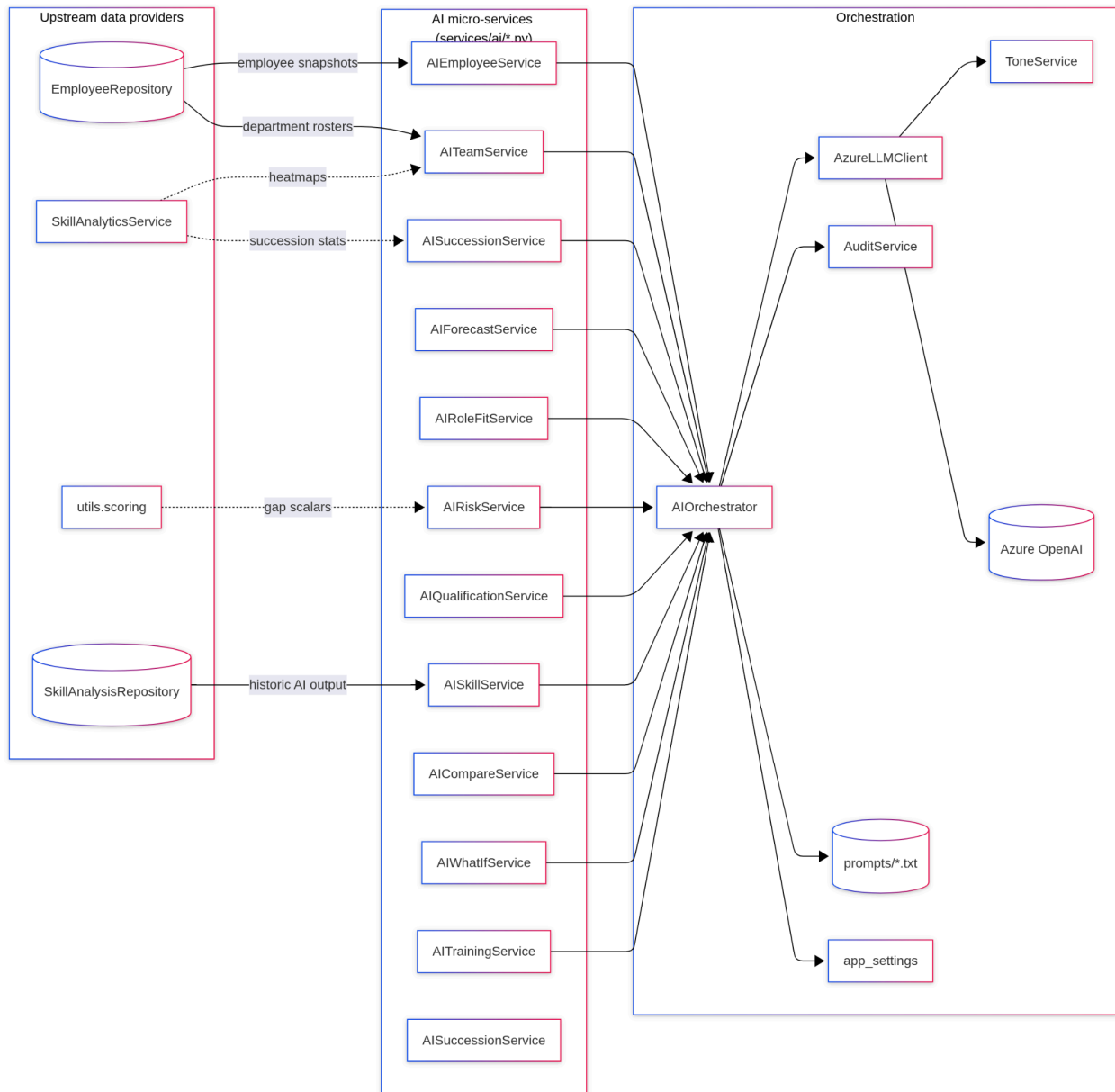- On-premises Azure deployment

Midterm (3–12 months):

- Succession engine
- Project assignment planner
- Skill decay model
- Real-time learning recommendations
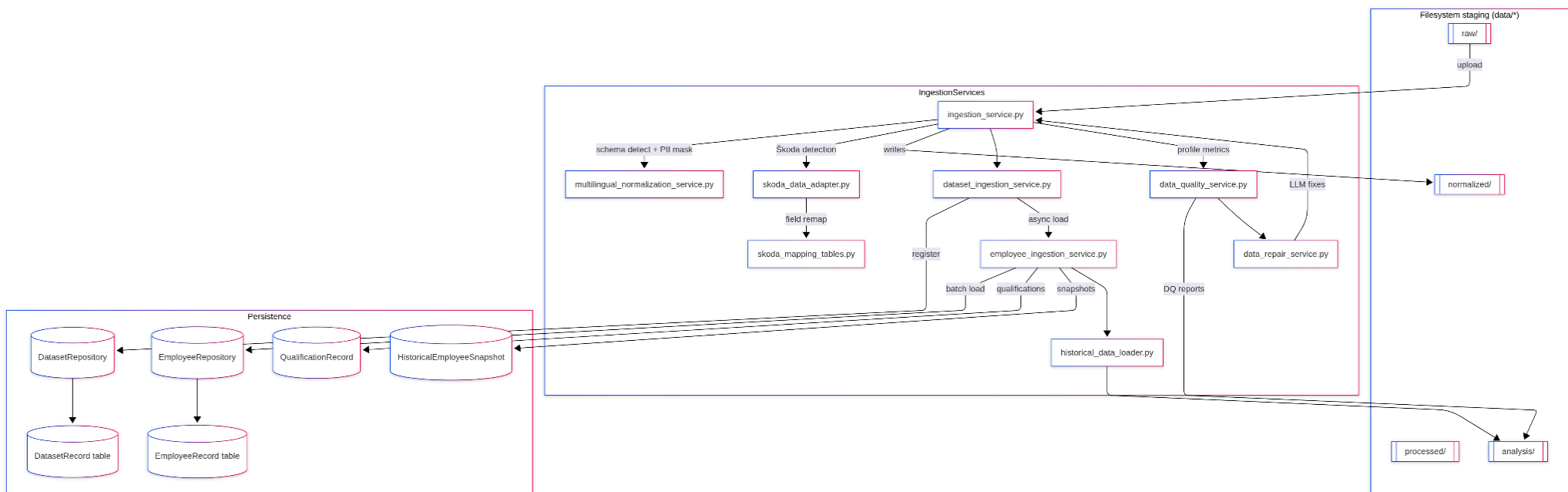
Long term (1–3 years):

- Organization skill graph
- Talent mobility prediction
- Workforce allocation simulation
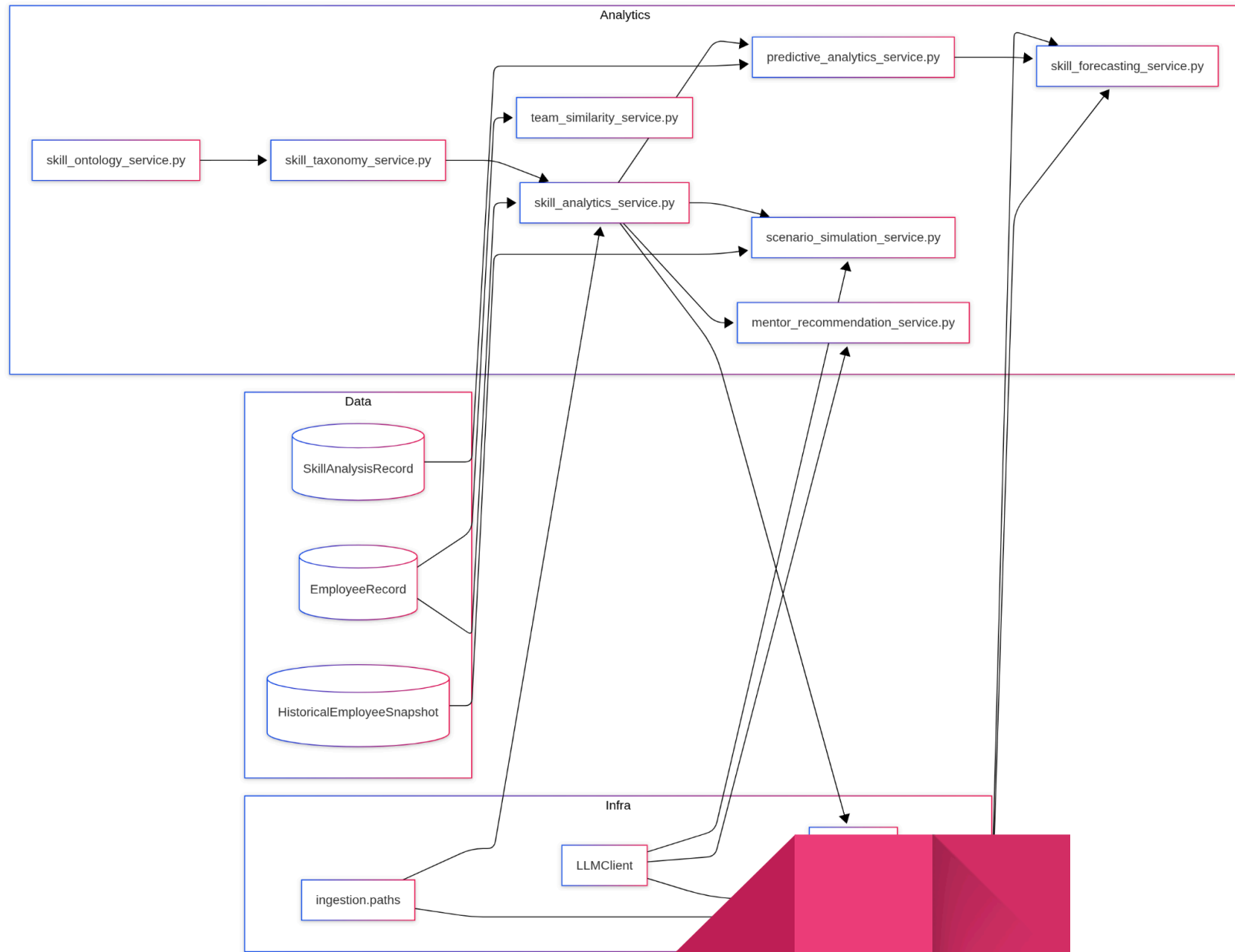
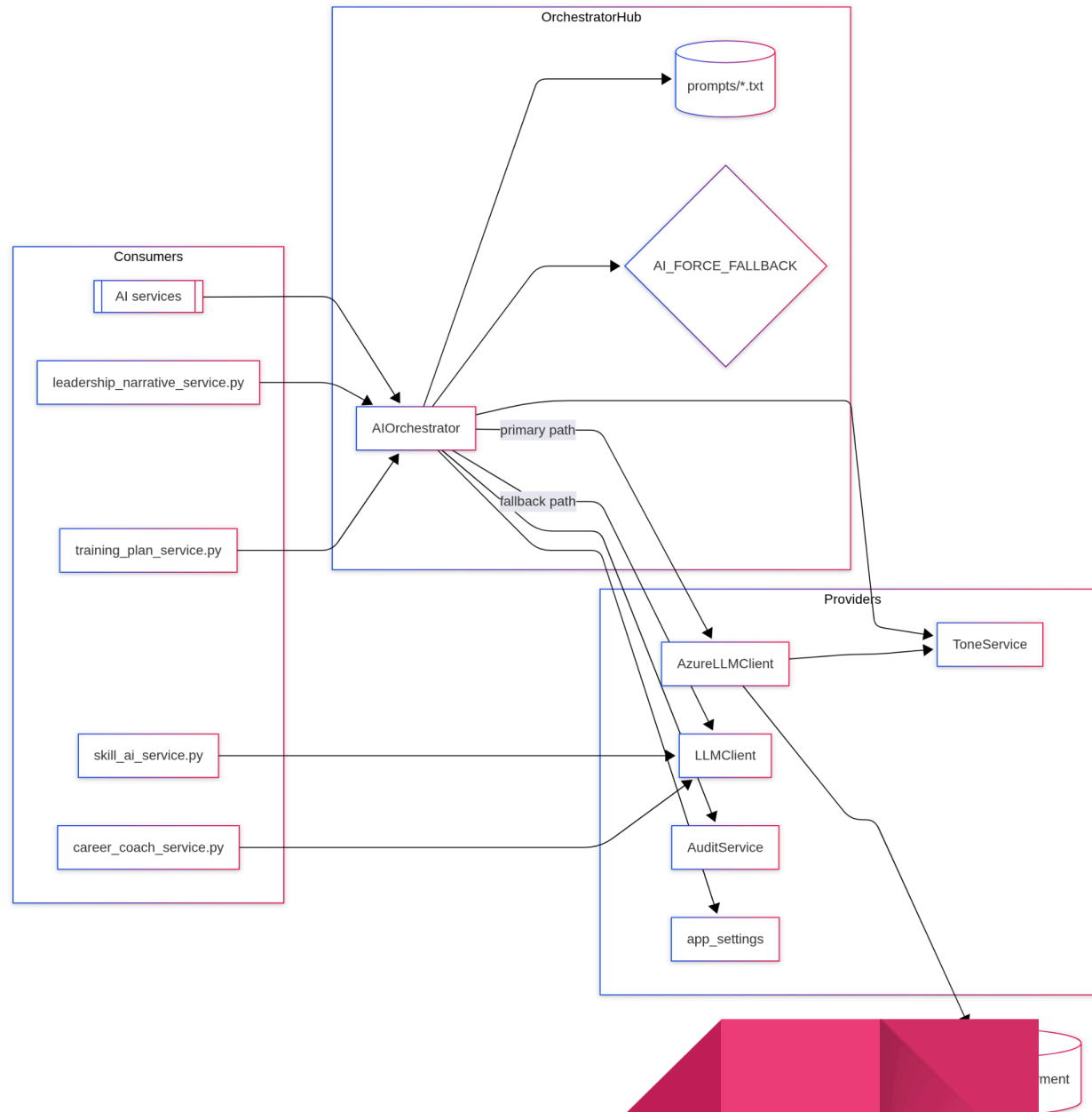## How the System Works (Workflow Diagram)

AI Services - Full Dependency Map

Upstream data providers
- EmployeeRepository
- SkillAnalyticsService
- utils.scoring
- SkillAnalysisRepository

AI micro-services (services/ai/*.py)
- AIEmployeeService ← employee snapshots
- AITeamService ← department rosters
- heatmaps
- AISuccessionService ← succession stats
- AIForecastService
- AIRoleFitService
- AIRiskService ← gap scalars
- AIQualificationService
- AISkillService ← historic AI output
- AICompareService
- AIWhatIfService
- AITrainingService
- AISuccessionService

Orchestration
- AIOrchestrator
- ToneService
- AzureLLMClient
- AuditService
- Azure OpenAI
- prompts/*.txt
- app_settings

2. Ingestion Pipeline - Dataset to Warehouse

Analytics Engine - Heatmaps to Forecasts

4. Orchestrator Layer - Prompt Governance Hub

OrchestratorHub

- prompts/*.txt
- AI_FORCE_FALLBACK
- AIOrchestrator
  - primary path
  - fallback path

Consumers

- AI services
- leadership_narrative_service.py
- training_plan_service.py
- skill_ai_service.py
- career_coach_service.py

Providers

- AzureLLMClient
- ToneService
- LLMClient
- AuditService
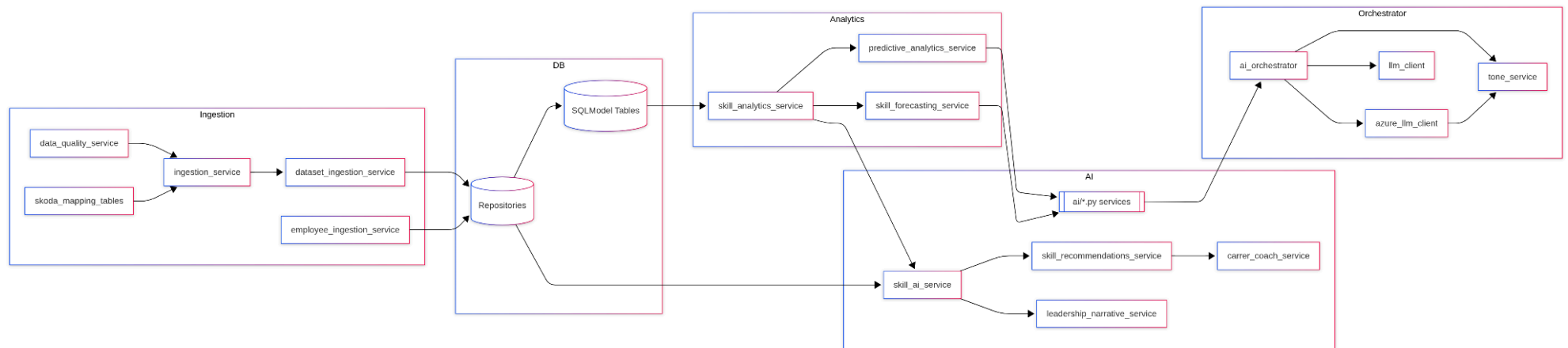- app_settings

5. Scoring + Utility Layer - AI-Augmented Coaching
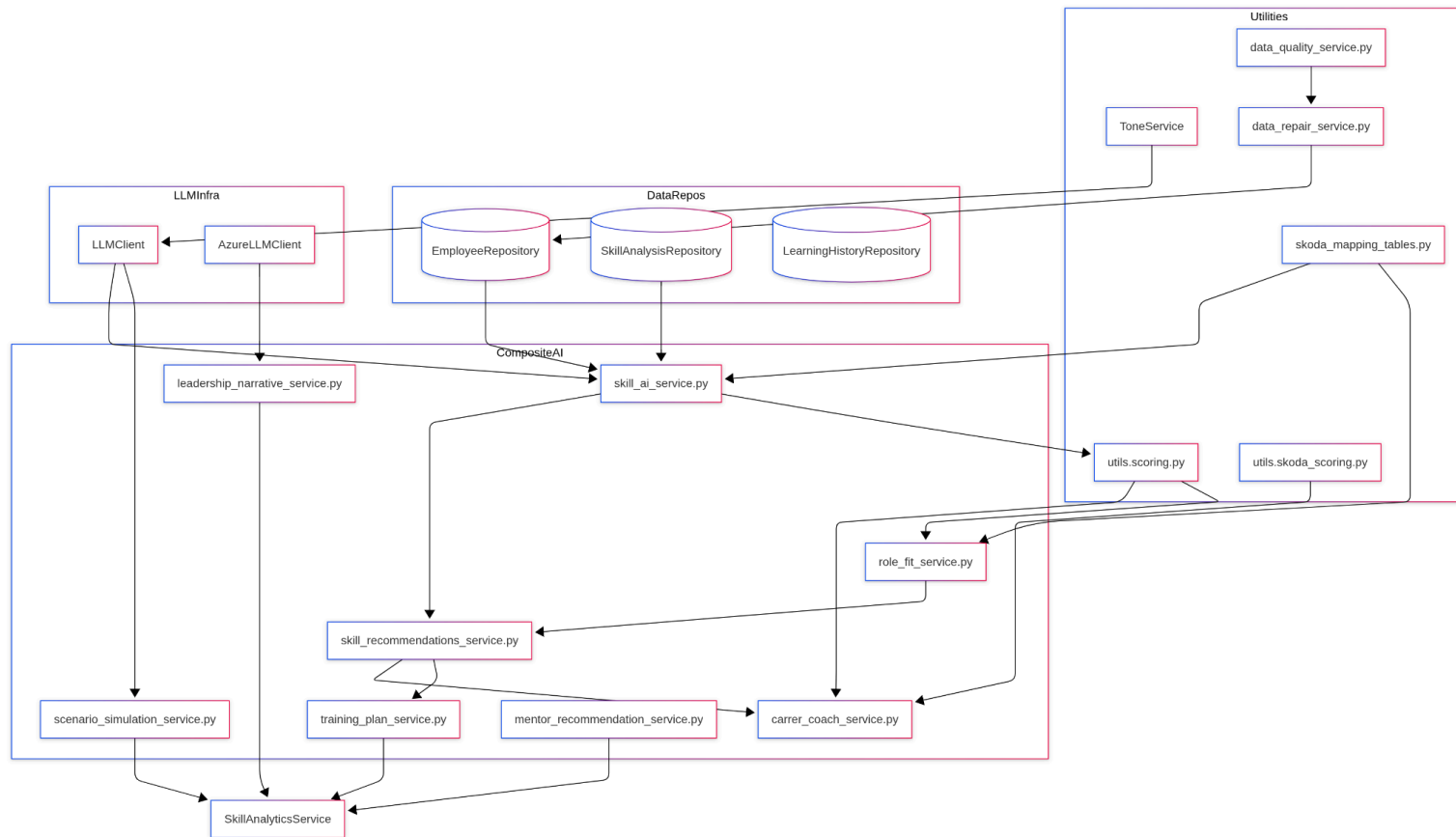
6. Database + Repository Layer
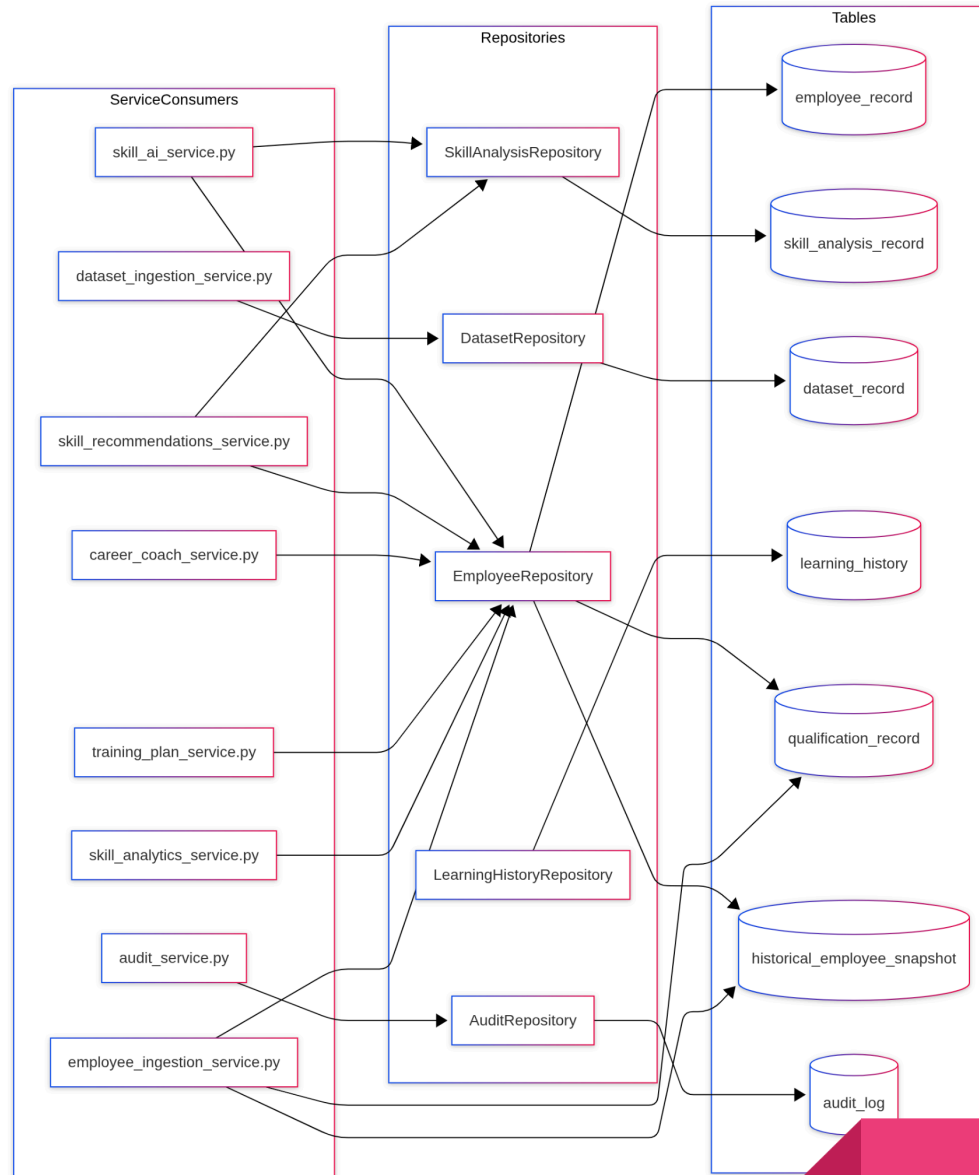
Combined Architecture Diagram - End-to-End View

9. TeamSAC

Aliyu Abdulbasit Ayinde – Lead AI Architect & System Engineer
Sude Naz Karayıldırım – Frontend & UX
Ahmet Bakırcan – Frontend & UX Developer
Takato Mitsuya – Data Analysis & Developer
Sergiu Nica - Data Analysis & Developer

10. Final Message

Škoda wants a system that is not a demo toy.
 Škoda wants a system that looks like it can run inside production tomorrow.

TeamSAC built exactly that.
 A real AI Skill Coach that gives managers, HRBP, and employees the clarity they need to grow Škoda's future workforce.

Thank you for the opportunity.