Lab #01: Automating Onboarding at Innovate Inc

Learning Goal

Expert systems were among the first successful applications of AI in business, emerging in the 1970s and 1980s. Today, while machine learning dominates headlines, rule-based systems remain crucial in industries requiring transparent, auditable decisions—from medical diagnosis to regulatory compliance.

This case study teaches you how to translate human expertise into automated decision-making systems. You'll learn to identify business rules, handle conflicting requirements, and understand both the power and limitations of rule-based AI. These skills are essential whether you're implementing traditional expert systems or designing guardrails for modern generative AI applications.

The Challenge

Innovate Inc., a rapidly growing technology company, is struggling with its manual employee onboarding process. New hires are experiencing significant delays in receiving their technology equipment, with some engineers waiting up to two weeks for proper laptops. The company has tasked your team with developing an expert system prototype that can automate the technology provisioning process, ensuring consistent, timely, and cost-effective equipment allocation for all new employees.

Your challenge is to codify the expertise of department heads into a rule-based system that can make intelligent provisioning decisions while balancing departmental needs with budget constraints.

Deliverables

- Documentation of Rules
- Python Code Snippet
- Reflection Questions

Appendix includes all case materials such as:

- COO Memo
- Process Analysis
- Expert Knowledge Base
- Technology Asset Catalog