

Data Mining

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Project Proposal

Job Market Analysis for Data Professionals in Germany

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Project Overview

Objective

This initiative aims to conduct a thorough investigation of the job market for Data Engineering and Data Scientist positions in Germany. We plan to harvest and analyze data from top job boards such as Glassdoor, Indeed, LinkedIn etc. Our objective is to pinpoint the essential skills and qualifications sought by employers, identify the attractive and deterring aspects of these roles, and provide a comprehensive view of the current market dynamics.

Focus Area

Our exploration will delve into the specifics required to excel in Data Engineering and Data Scientist roles in Germany. This includes educational background, technical and soft skills, and other critical qualifications. We will also evaluate what renders these positions attractive or unattractive to the professional community in Germany.

Implementation Plan

Data Collection

Methodology: Utilizing Python's libraries, BeautifulSoup and Scrapy, we will systematically scrape job listings from Glassdoor, Indeed, LinkedIn, etc., focusing specifically on the German market. We commit to gathering data over a full year to ensure we capture seasonal variations and emerging trends.

Analysis

- Approach: Through Natural Language Processing (NLP) and machine learning, we aim to extract and categorize the skills and qualifications mentioned in job postings. This analysis will help us understand the market demand.
- Tools: We will employ Python, utilizing Pandas for data structuring, NLTK/spaCy for text analysis, and Scikit-learn for predictive modeling and insights.

Project Rationale

This project is designed to bridge the knowledge gap in Germany's job market for Data Scientists and Engineers, illuminating the path for educators, policymakers, and job seekers. Understanding these roles are pivotal in the data-driven economy, understanding their market trends is critical for shaping education policies, career development, and business strategies.

Learning Objectives

- Technical Skills: Gain hands-on experience in data mining, web scraping, NLP, and machine learning.
- Market Insights: Achieve a deep understanding of the demand for Data Engineers and Scientists in Germany, highlighting sought-after skills and job attractiveness factors.
- Analytical Capabilities: Enhance the skill to perform in-depth data analysis, extract meaningful insights, and present them effectively.
- Critical Perspective: Develop the ability to critically analyze job market trends and their implications for stakeholders.