

Intelligent Resume Analyzer to Automate Candidate-Job Matching

An AI-based intelligent resume analyzer that uses advanced Natural Language Processing (NLP) and experience-led design to provide recruiters with efficient, objective, and smart candidate-job matching.

Overview

QBurst developed a unified, repository-based user platform for recruiters and consultants, leveraging AI to automate key steps in the recruitment workflow.

- **Automated Matching:** The platform automatically matches CVs to job descriptions (JDs) based on skills, experience, and custom criteria, reducing the need for manual screening.
- **Objective Evaluation:** The AI-driven algorithm minimizes bias by focusing on objective, extracted criteria, ensuring fair and consistent candidate assessments.
- **Experience-Led Workflow Efficiency:** Integrated systems and simplified workflows reduce effort and improve match quality.



Client

A global leader in the HR services industry that provides comprehensive recruitment and staffing solutions across multiple sectors. They manage a vast pool of candidates, connecting eligible talent with specific requirements through advanced digital tools.

Challenges

The client's traditional recruitment process presented significant operational and compliance challenges:

- **Screening Inefficiency:** Manual screening of a large volume of CVs against specific JDs was time-consuming and labor-intensive, delaying the start of the interview process.
- **Subjective Bias:** Relying on human reviewers for initial screening introduced potential bias and inconsistency in the candidate evaluation process.

- **Data Discrepancy:** Lack of seamless integration required recruiters to manually validate and synchronize candidate data between the screening platform and systems like Salesforce.
- **Search & Multilingual Complexity:** Traditional keyword searches proved inadequate for filtering thousands of profiles compounded by the challenge of accurately analyzing English and Japanese CVs and JDs across global operations.

AI-Powered Platform for Resume and JD Analysis

We developed an intuitive, AI-powered platform capable of intelligently analyzing resumes and JDs using Natural Language Processing (NLP) technologies. The solution provides multi-dimensional matching based on criteria such as skills, experience, and geographical preferences, while aligning with local recruiter workflows and cultural design expectations, transforming the client's recruitment lifecycle. The architecture is built on AWS services, leveraging AWS Bedrock for its generative AI capabilities and Spring Boot/Java for the robust backend.

Key Solution Features

- **Intelligent Matching System:** Implements an automated CV-to-Job matching algorithm based on customizable weights for criteria like experience, education, and salary.
- **Detailed Parsing Capabilities:** Extracts detailed information (skills, job titles, requirements) from candidate CVs and JDs, validating and approving the data.
- **Match Visualization:** Displays an overall match percentage along with detailed breakdowns for each criterion, providing transparency to recruiters.
- **Multilingual Support:** Utilizes AWS Translate to support multiple languages, including English and Japanese, for names and content.
- **AI-Powered Search Experience:** Natural-language AI interface that auto-generates precise filters and provides intelligent suggestions to dynamically refine results.

Technical Highlights

- **Generative AI Core:** Leveraged AWS Bedrock for intelligent matching and content analysis, driving the core automation engine.
- **Data Processing and Search:** Utilized AWS OpenSearch for robust, advanced search functionality and fast retrieval across CV and JD repositories.
- **Customizable Weighting:** Allows users to tailor matching criteria by adjusting weightage (high, medium, low) for various parameters.
- **Experience-Led Design:** Phased rollout of AI features, simplified flows, and minimal-click interactions designed for speed, clarity, and repeat use.
- **Integration and Sync:** Implemented direct synchronization with Salesforce, enabling seamless data transfer, tracking of shortlisted matches, and workflow integration with existing systems.
- **Access Control:** Deployed Auth0 for comprehensive user and role management, ensuring appropriate permissions based on job functions.

Impact: Automation with Reduced Time-to-Hire

- **Accelerated Time-to-Hire:** The platform significantly improved candidate identification quality and reduced time-to-hire metrics by 45% through intelligent matching.
- **Reduced Manual Effort & Cost:** Minimized the need for manual screening, reducing labor costs associated with initial candidate evaluation by 50%.
- **Improved Matching Accuracy:** The objective, weighted matching system improved the quality and precision of candidate-job matches by 60%.
- **Objective Candidate Evaluation:** The analyzer reduced bias by focusing on objective criteria extracted from resumes and job descriptions, ensuring fair and consistent assessment.
- **Design-Led Efficiency:** Muscle-memory-driven interactions and clear flows reduced friction, while stakeholder-aligned design enabled easier updates without workflow disruption.