SmartCV AI CV Analyzer

IEEE-Style Project Documentation and Case Study

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Figure 1. Project visual identity used in the portfolio website.

Abstract

SmartCV AI CV Analyzer is documented as a professional portfolio case study by Muhammad Haider Abbas. The project demonstrates practical capability in AI / Machine Learning through a structured problem-solution design, implementation direction, testing plan and future development roadmap. The report explains the business or academic motivation, system requirements, architecture, workflow, quality considerations and expected professional value of the project. It is prepared for use as downloadable portfolio evidence for recruiters, clients and academic reviewers.

Keywords: AI / Machine Learning, Live / In Progress, Product Builder, AI, ATS, Stripe, CV Analysis

I. Project Profile

Field	Details
Project Title	SmartCV AI CV Analyzer
Category	AI / Machine Learning
Year	2026
Role	Product Builder
Status	Live / In Progress
Tools	AI workflows, Web stack, Stripe, Resume parsing
Portfolio Slug	smartcv-ai-cv-analyzer

II. Introduction and Problem Context

This document presents the technical and professional documentation for SmartCV AI CV Analyzer. The project is positioned as a live / in progress in the AI / Machine Learning category. The work highlights the author's ability to combine technical implementation, documentation discipline and outcome-focused project thinking. The project summary is: An AI-supported CV optimisation workspace with ATS feedback, role-fit analysis and subscription logic.

A. Problem Statement

Many job seekers submit CVs that are not aligned with job descriptions or ATS keyword patterns.

B. Proposed Solution

The system analyses CV content, compares it with role requirements and provides structured suggestions for improvement.

III. Aim and Objectives

To design an AI-supported CV analysis workspace that improves role fit, ATS readability and candidate presentation.

- Create a CV upload or text input workflow.
- Extract CV content into structured sections.
- Compare CV language with target job requirements.
- Generate ATS feedback, keyword gaps and improvement recommendations.
- Support monetisation through premium analysis reports.

IV. Requirements Analysis

ID	Requirement	Type	Priority
FR-01	CV upload/text input	Functional / project requirement	Required
FR-02	Job description input	Functional / project requirement	Required
FR-03	Section extraction	Functional / project requirement	Required
FR-04	ATS score direction	Functional / project requirement	Required
FR-05	Keyword gap report	Functional / project requirement	Required
FR-06	Stripe-ready subscription logic	Functional / project requirement	Required
NFR-01	Usability and clear portfolio presentation	Non-functional	Required
NFR-02	Maintainability and future extensibility	Non-functional	Required
NFR-03	Professional documentation and evidence quality	Non-functional	Required

V. System Architecture

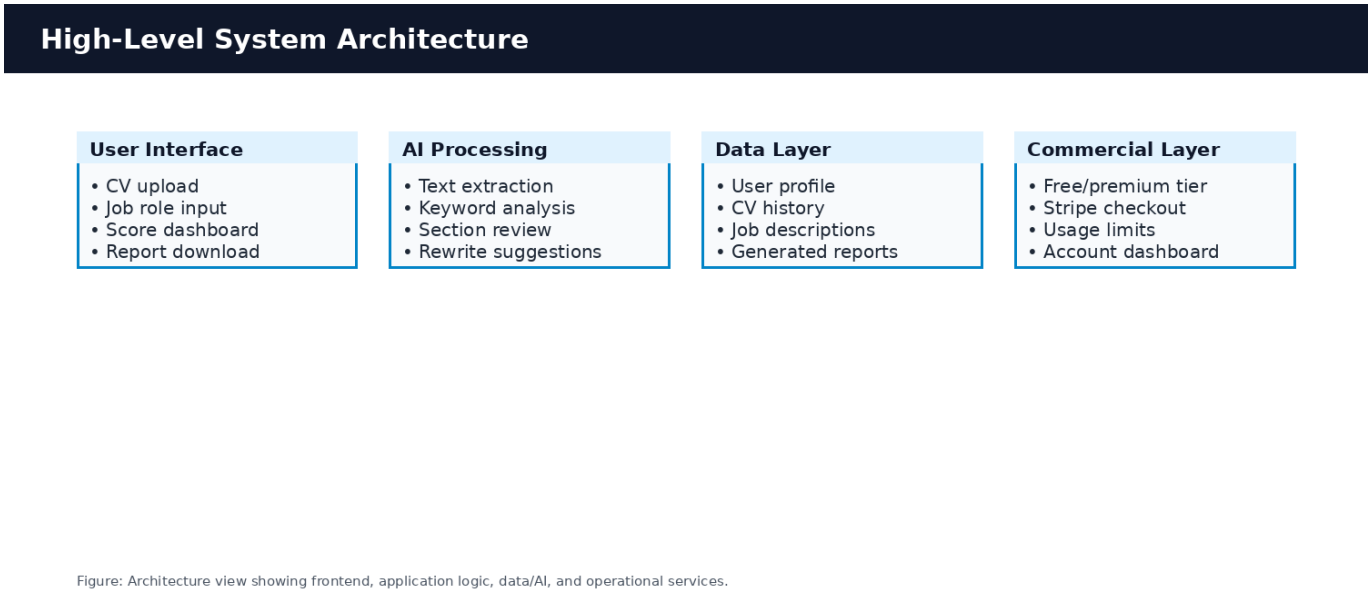


Figure: Architecture view showing frontend, application logic, data/AI, and operational services.

Figure 2. High-level architecture or production pipeline for the project.

The architecture separates user-facing presentation, project logic, data or model processing, and operational output. This structure makes the project easier to explain, test and extend inside a professional portfolio environment.

VI. Workflow Design

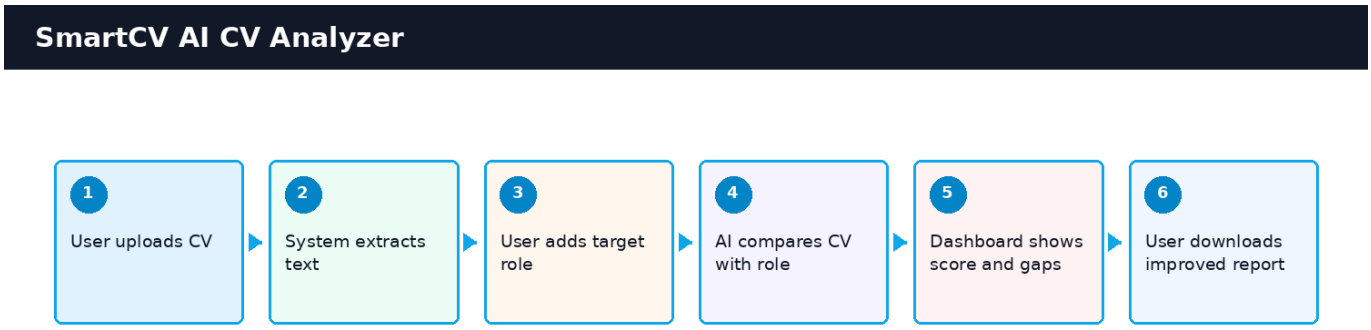


Figure: Generated project workflow / architecture artefact for portfolio documentation.

Figure 3. Project workflow from input or user action to final output.

VII. Data, Components and Implementation View

Component	Layer	Responsibilities	Notes
C-01	User Interface	CV upload, Job role input, Score dashboard, Report download	Core component group
C-02	AI Processing	Text extraction, Keyword analysis, Section review, Rewrite suggestions	Core component group
C-03	Data Layer	User profile, CV history, Job descriptions, Generated reports	Core component group
C-04	Commercial Layer	Free/premium tier, Stripe checkout, Usage limits, Account dashboard	Core component group

Implementation should be documented through screenshots, code snippets, database schema extracts, test outputs or demonstration media when available. For deployed or live systems, screenshots and logs should be attached as appendices to increase evidence strength.

VIII. Testing and Validation Strategy

Test Area	Test Method	Expected Result
File input	Upload PDF/DOCX sample	File accepted or clear error shown
Keyword match	Compare CV and job description	Missing terms listed
Feedback quality	Review generated suggestions	Suggestions are actionable
Payment path	Premium report checkout direction	Payment flow is available

The testing strategy focuses on validating the main user or system journey, confirming that core requirements behave as expected, and recording limitations clearly. This supports honest portfolio evidence and avoids overclaiming features that are still prototypes.

IX. Security, Ethics and Professional Considerations

- Avoid presenting AI recommendations as guaranteed truth.
- Protect user data and avoid uploading sensitive CV, health or behavioural data without consent.
- Use evaluation metrics and explain limitations clearly.

X. Results, Outcome and Future Work

A. Outcome

A strong AI SaaS-style project for job-tech and career support.

B. Future Enhancements

Add job-description matching, rewrite suggestions, dashboard history and recruiter view.

Roadmap Stage	Enhancement Direction
Short term	Add missing screenshots, demo links and downloadable supporting files.
Medium term	Connect live/source URLs and replace placeholder evidence with real artefacts.
Long term	Use analytics, user feedback or formal evaluation results to strengthen the project case study.

XI. References

[1] Stripe, "Checkout documentation," https://docs.stripe.com/payments/checkout

Appendix A. Portfolio Download Mapping

Item	Value
Recommended PDF path	docs/smartcv-ai-cv-analyzer-project-documentation.pdf
Recommended Word path	docs/smartcv-ai-cv-analyzer-project-documentation.docx
Admin field: Documentation	docs/smartcv-ai-cv-analyzer-project-documentation.pdf
Admin field: Extra Project File	docs/smartcv-ai-cv-analyzer-project-documentation.docx