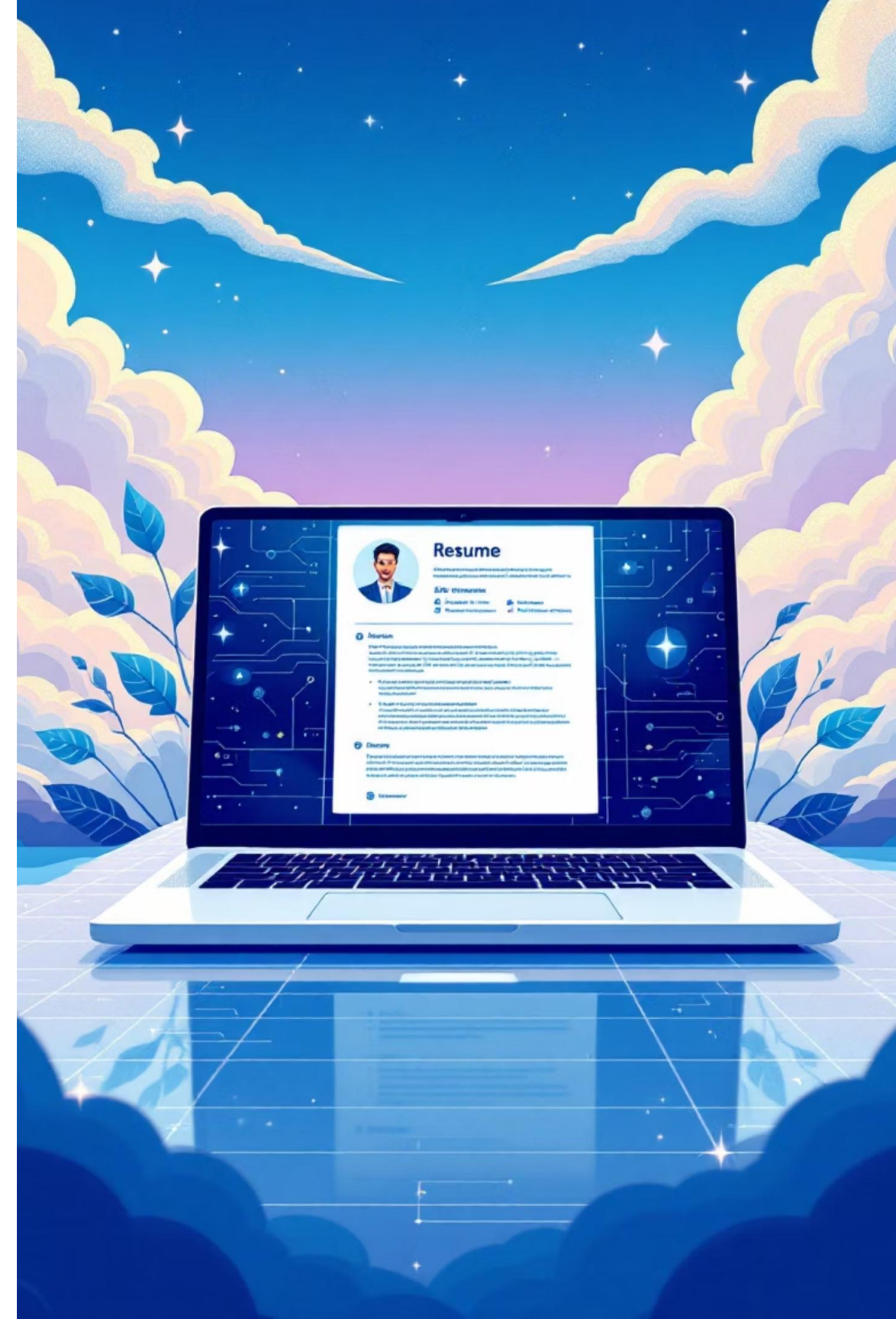


SkillMatch: Resume Matcher and Skill Recommender

Team 3 | An intelligent solution for resume optimisation and career advancement



The Challenge: Navigating Modern Job Applications

The Problem

Job seekers face mounting challenges in today's competitive market. Applicant Tracking Systems (ATS) reject qualified candidates due to formatting issues. Identifying skill gaps for specific roles remains difficult, and tailoring resumes for each application is time-consuming and complex.

Our Motivation

We recognised the need for an intelligent tool that not only analyses resume-job fit but provides actionable recommendations. SkillMatch bridges the gap between a candidate's current profile and their dream role, leveraging AI to deliver personalised guidance.



Introducing SkillMatch



AI-Powered Coach

Your personal resume optimisation assistant, powered by Google Gemini AI



Smart Matching

Intelligent algorithms analyse resume-job fit and identify critical skill gaps



Professional Output

Generate ATS-friendly, beautifully formatted resumes tailored to each opportunity

SkillMatch is a comprehensive web application that transforms how job seekers create, optimise, and customise their resumes. It combines cutting-edge AI technology with professional resume standards to ensure your application stands out whilst passing automated screening systems.





Technical Architecture: Built for Performance

Frontend Stack

- React 18 + TypeScript for type-safe component development
- Tailwind CSS with shadcn/ui for modern, responsive design
- React Query (TanStack Query) for efficient state management
- Wouter lightweight routing for fast navigation
- Radix UI primitives ensuring accessibility standards

LaTeX Engine

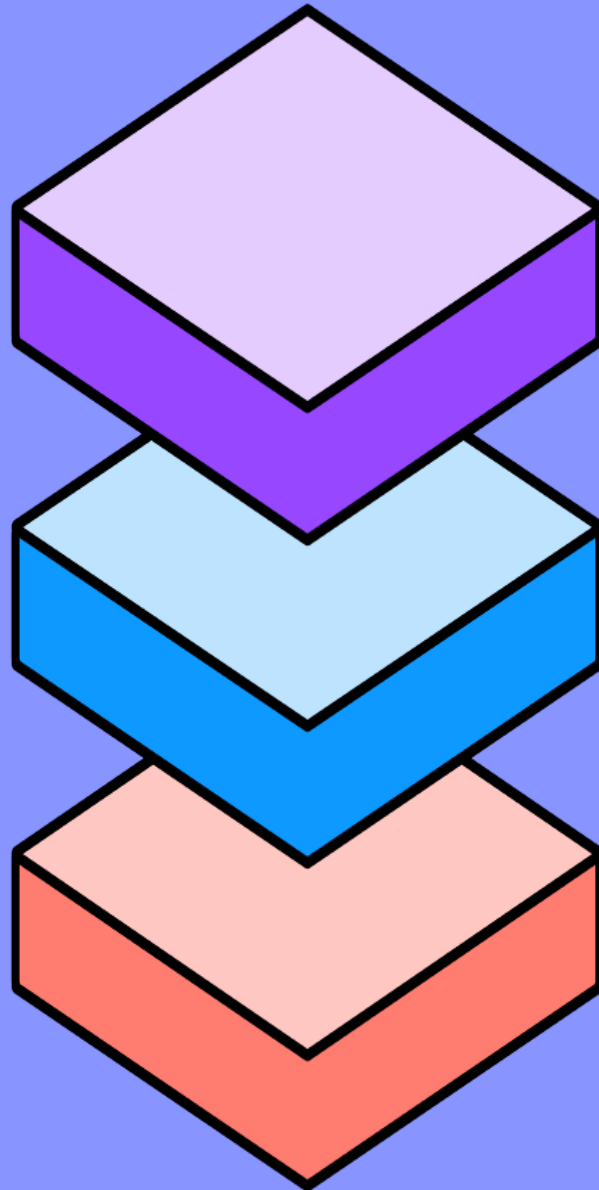
Professional PDF generation with pixel-perfect formatting

Backend Stack

- Node.js + Express.js powering the server runtime
- TypeScript for consistent type safety across the stack
- PostgreSQL with Supabase for reliable data storage
- Drizzle ORM for elegant database operations
- Google Gemini AI delivering intelligent content optimisation

Session Management

Secure user sessions with express-session memory store





Workflow 1: ATS Analysis & Job Matching



Upload Resume

Support for PDF, DOCX, and TXT formats, or paste text directly into the interface



Provide Job Description

Paste the target job posting for intelligent comparison and analysis



Deep Analysis

Extract skills using regex patterns, calculate match scores (0-100%), identify skill gaps, and check ATS compatibility



Actionable Recommendations

Receive personalised suggestions for certifications, relevant projects, and AI-generated project ideas via Gemini

Workflow 2: Professional LaTeX Resume Editor

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Three-Panel Layout

Navigate sections (left), edit LaTeX code (middle), preview PDF live (right)

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Real-Time Editing

Syntax highlighting, section navigation, multiple templates (Modern, ATS-friendly, Creative, Academic)

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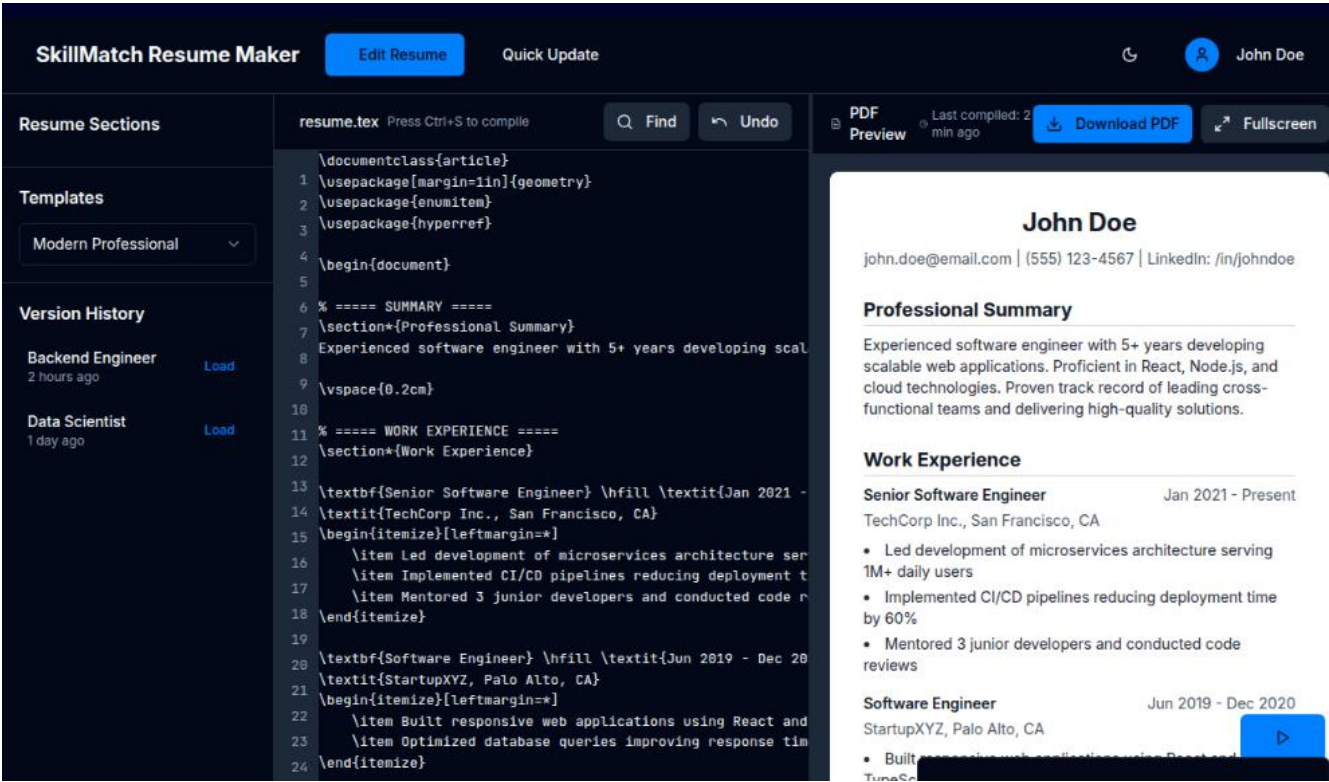
Instant Compilation

Press Ctrl+S to save, run pdflatex, generate PDF, and view preview with error handling

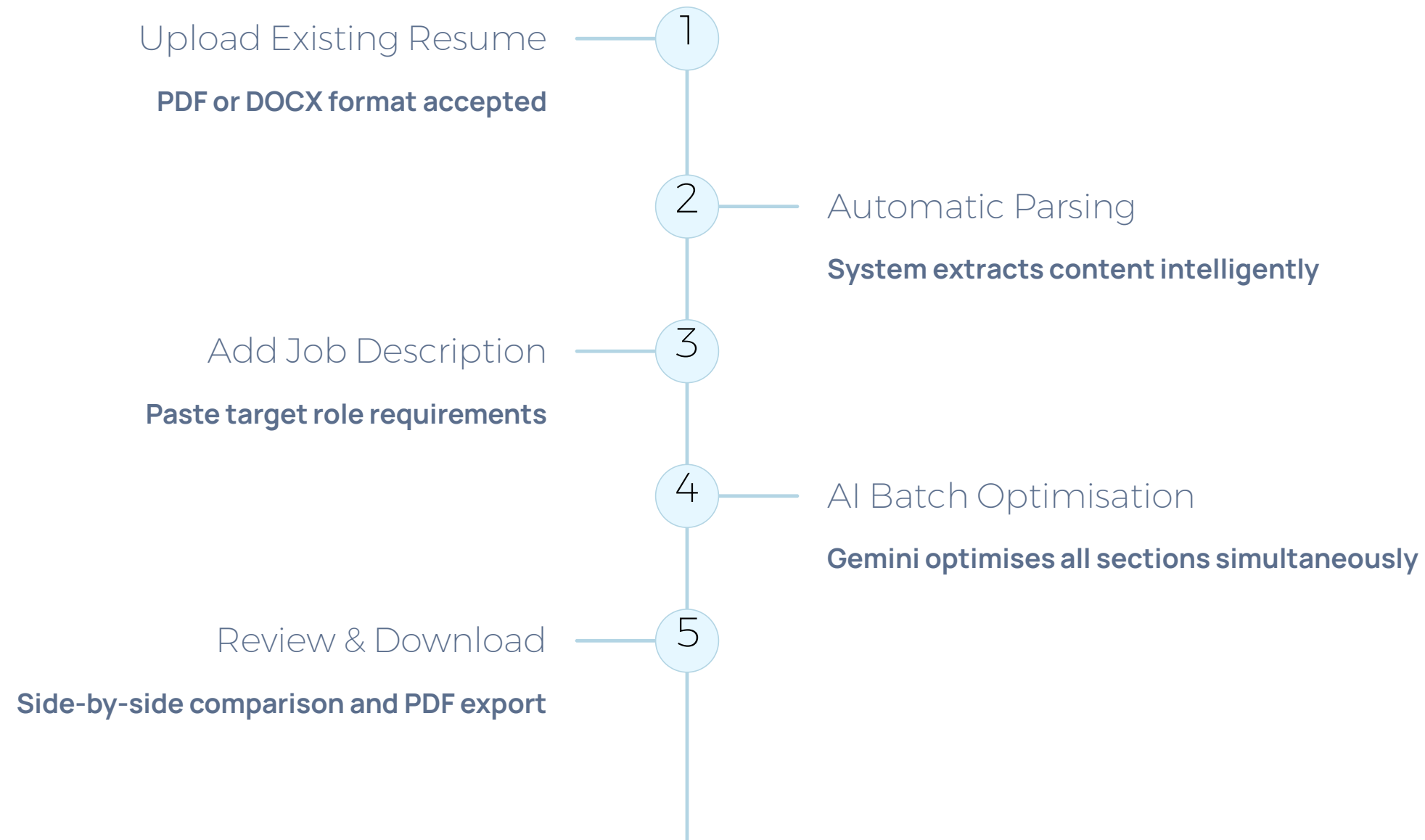
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AI Optimisation

Click "Optimise" on sections, paste job description, receive Gemini AI rewrites with diff view comparison



Workflow 3: Quick Update - Batch Optimisation



This streamlined workflow enables rapid resume customisation for multiple job applications. The implementation leverages `quick-update.tsx` for the user interface and `parser.ts` for intelligent document parsing across various file formats.

Comprehensive Feature Set

Core Capabilities

- ✓ AI-Powered Optimisation using Google Gemini
- ✓ Real-Time LaTeX Editing with live PDF preview
- ✓ ATS Compatibility Scoring for system-friendly formatting
- ✓ Job Match Calculator with percentage analysis
- ✓ Skill Gap Analysis identifying missing competencies
- ✓ Smart Recommendations for projects and certifications

5

Use Cases Covered

From students to career switchers to professionals

4

File Formats

Supporting industry-standard document types

11

Key Features

Comprehensive toolkit for resume success

Professional Tools

- ✓ Multiple Resume Templates for various industries
- ✓ Version Management tracking resume iterations
- ✓ Universal File Parsing supporting PDF, DOCX, DOC, TXT
- ✓ Centralised Dashboard managing multiple resumes
- ✓ Profile Management with comprehensive skills tracking





Empowering Careers Through Intelligent Technology



Students

Create professional resumes from templates and build a strong foundation for career entry



Professionals

Maintain multiple resume versions tailored for different roles and opportunities



Career Switchers

Identify skill gaps, receive targeted learning recommendations, and bridge industry transitions



Career Coaches

Help clients enhance their resumes with AI-driven insights and data-backed recommendations

SkillMatch transforms the resume creation process from a daunting task into an intelligent, guided experience. By combining advanced AI capabilities with professional formatting standards, we empower job seekers to present their best selves to potential employers.

Team 3

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