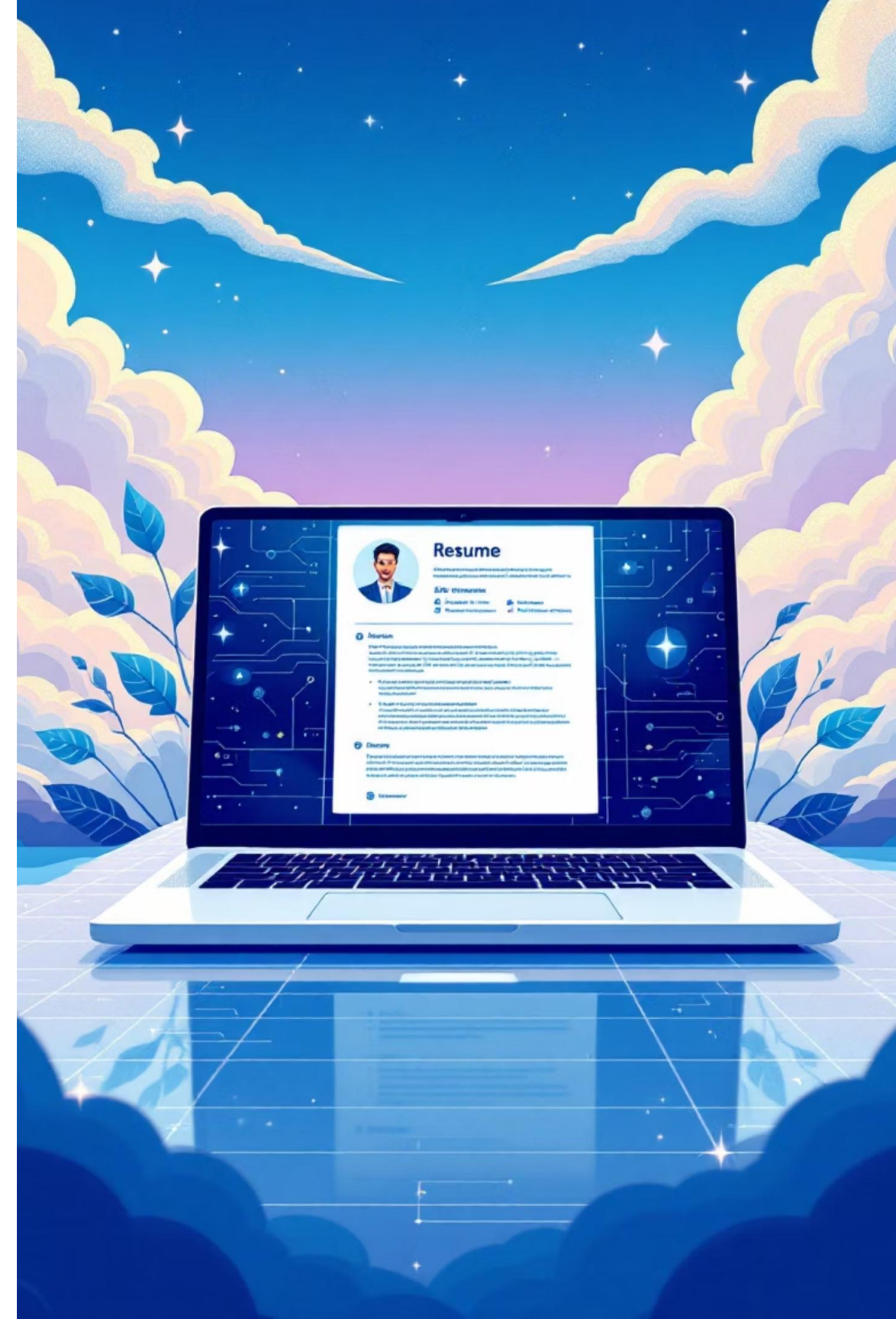# SkillMatch: Resume Matcher and Skill Recommender

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
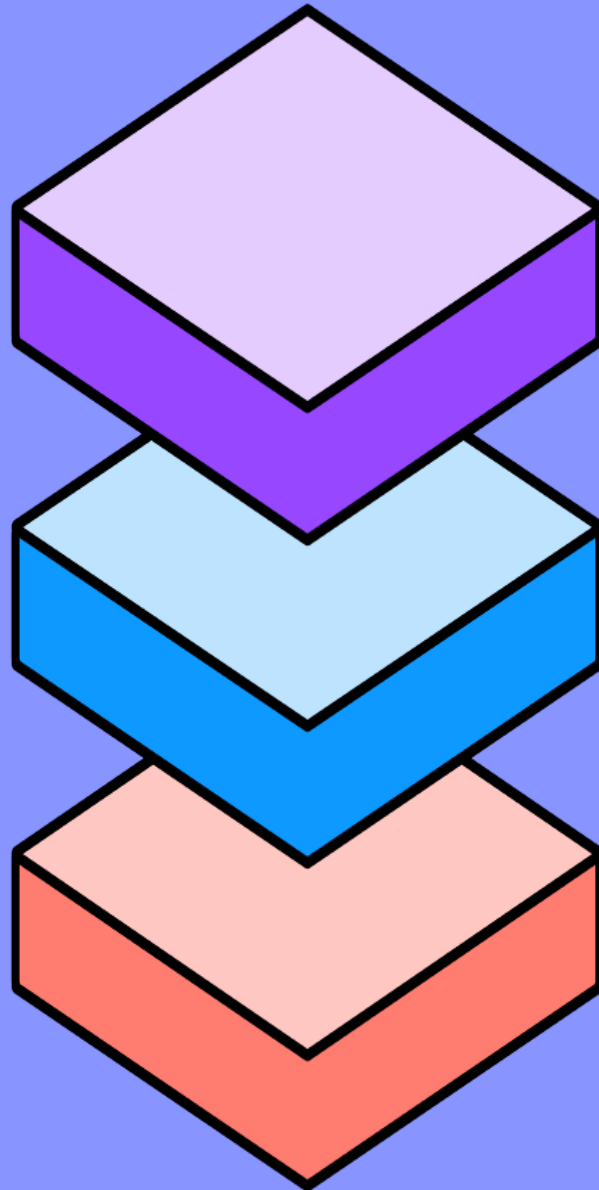
- Radix UI primitives ensuring accessibility standards

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

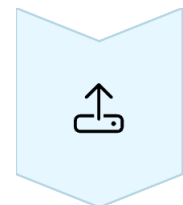- Google Gemini AI delivering intelligent content optimisation

LaTeX Engine

Professional PDF generation with pixel-perfect formatting

Session Management

Secure user sessions with express-session memory store
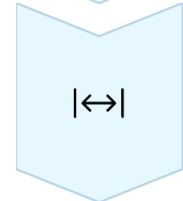
Workflow 1: ATS Analysis & Job Matching

Upload Resume
Support for PDF, DOCX, and TXT formats, or paste text directly into the interface
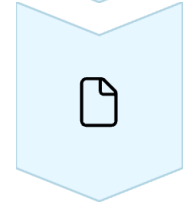
Provide Job Description
Paste the target job posting for intelligent comparison and analysis

Deep Analysis
Extract skills using regex patterns, calculate match scores (0-100%), identify skill gaps, and check ATS compatibility
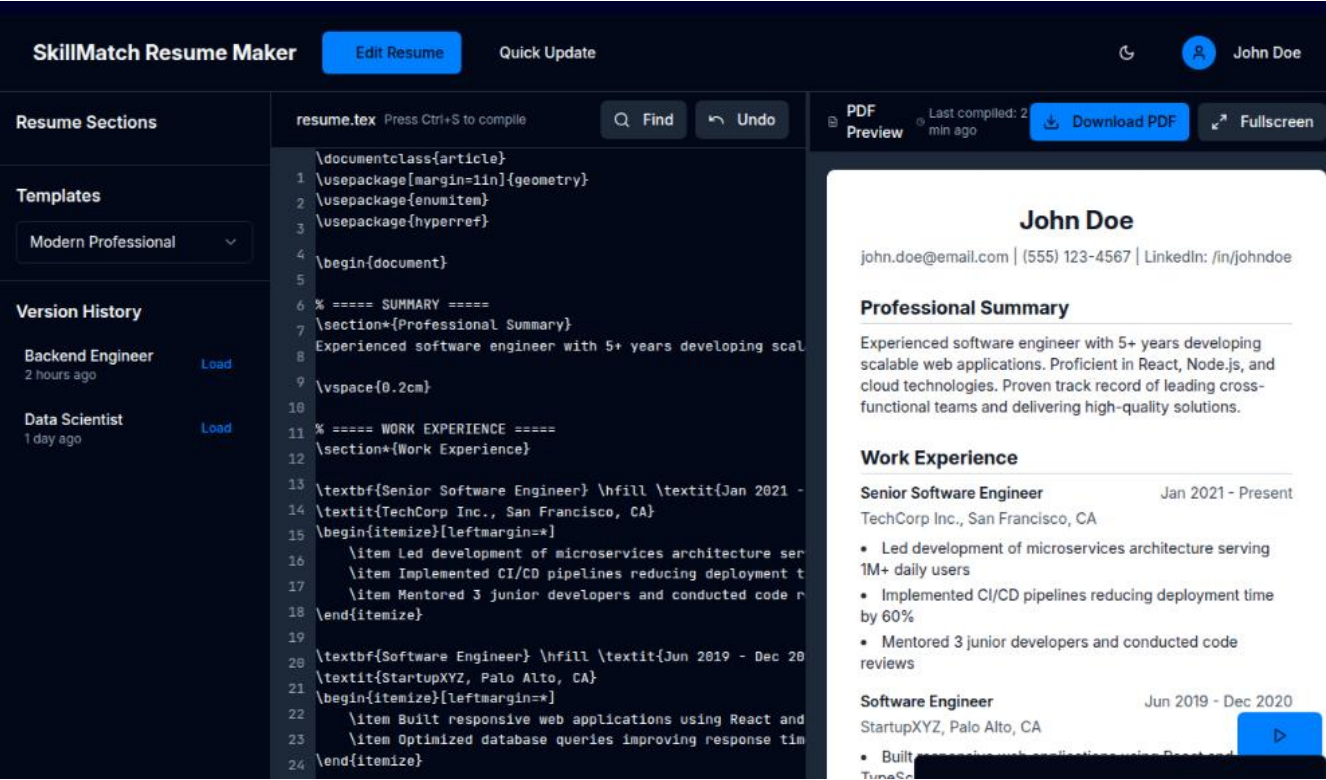
Actionable Recommendations
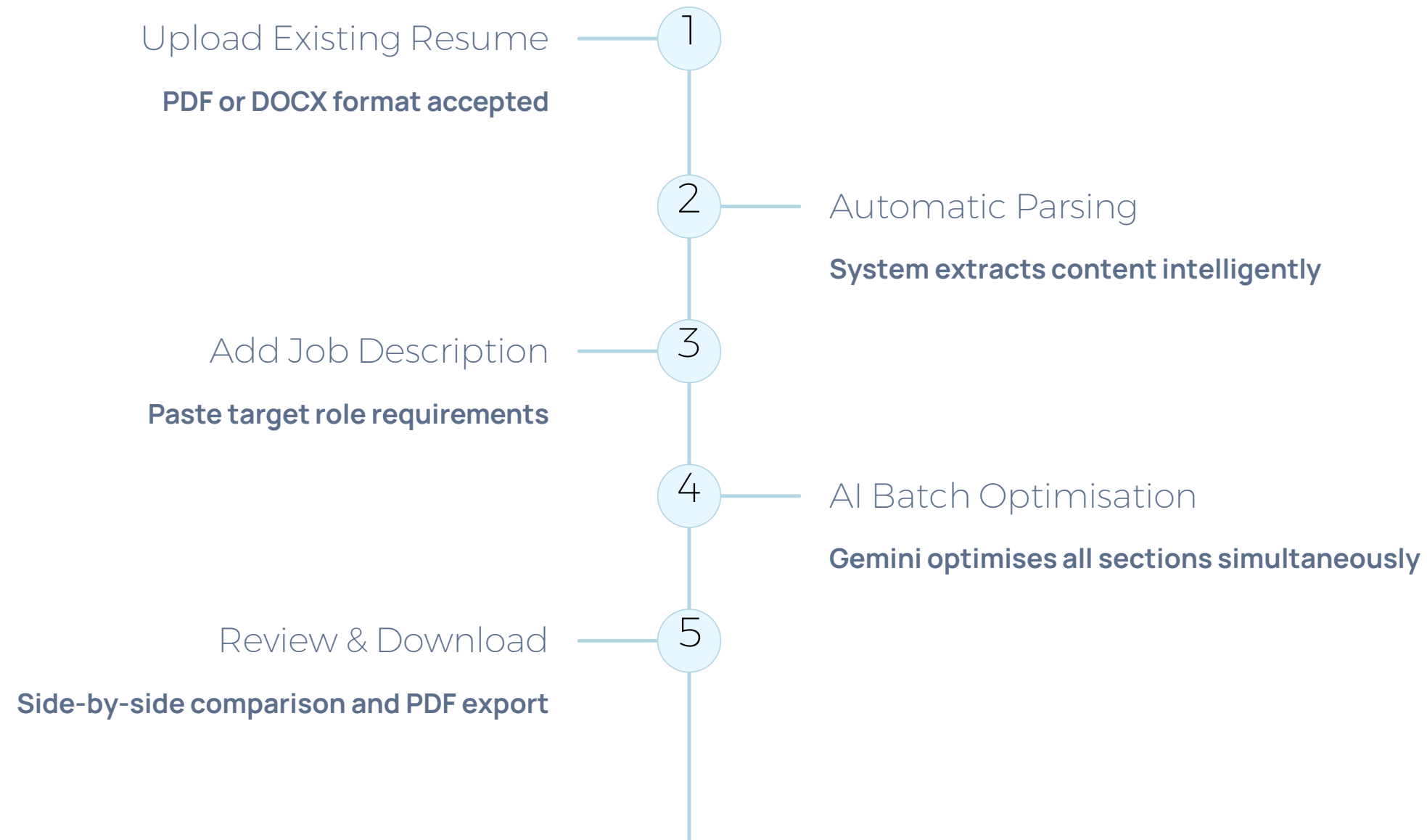**Receive personalised suggestions for certifications, relevant projects, and AI-generated project ideas via Gemini**

Workflow 2: Professional LaTeX Resume Editor

01

Three-Panel Layout

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

02

Real-Time Editing

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

03

Instant Compilation

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

04

AI Optimisation

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

Workflow 3: Quick Update – Batch Optimisation

1 Upload Existing Resume

PDF or DOCX format accepted

2 Automatic Parsing

System extracts content intelligently

3 Add Job Description

Paste target role requirements

4 AI Batch Optimisation

Gemini optimises all sections simultaneously

5 Review & Download

Side-by-side comparison and PDF export

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

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

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

Empowering Careers Through Intelligent Technology

Students

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

Career Switchers

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

Professionals

Maintain multiple resume versions tailored for different roles and opportunities

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

Ashutosh Kumar Tejaswi

Shatakshi Goel

Adreeja Mahato

Karthik Pamoti

Subham Kumar

Anisha Roy