

RESUMEZ

AI-Powered Resume Analyzer

📄 github.com/technologyzzz

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MORE RESULT LESS OPS

Addressing developer and user
inefficiencies



Normally resume optimization process for
ATS (Applicant Tracking System) are
manual, repetitive, and often ineffective🌀

AI application prototypes are often
hampered by the complexity of the
backend setup (Auth, DB, Storage)✍️

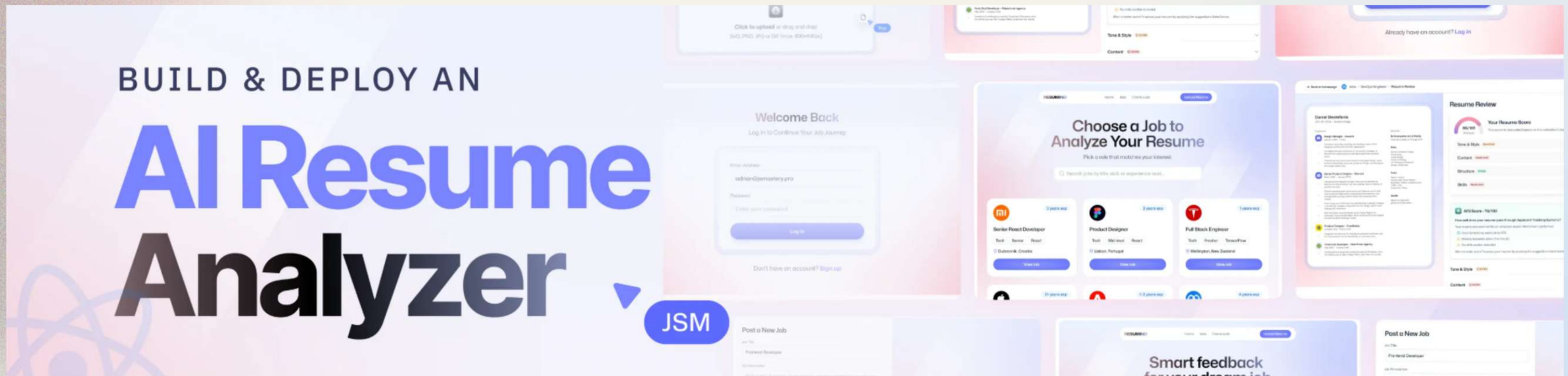
Time is wasted on boilerplate, not on the
core AI logic⌚

Full stack (frontend + backend)
is too scary for beginners...😬

NEVER LOSE YOUR DREAM JOB WITH RESUMEZ

Not just solving real world problems

ResumeZ is *serverless* application that solves both problems simultaneously, allowing developers to focus 100% on AI integration and providing instant *insight* to job seekers.



JUSTIFY TECH-STACK

:

FAST & FOCUS



Frontend

React & Typescript for a robust type-safe UI



State Management

Zustand, chosen for its simplicity for global state management, drastically reduces boilerplate



Backend & Services

Puter.js, the keystone of this architecture. Provides Auth, Storage, and DB directly from the client, eliminating the need for a separate backend server

- Trade-off
- Sacrifices infrastructure control for maximum prototype development speed
- Need 2 times login auth process



AI Model & Prompting

A strategic combination of

- IBM Granite (for prompt engineering)
- Claude Sonnet (for analysis execution)

CASE STUDY

My colleague, *Fadli*, an accounting graduate, wanted to apply for an Assurance Associate position at PWC.

He thought his point of view would be biased and subjective if he were to proofread his own resume, but he got no one to do consultation with.

So he used **ResumeZ** to get AI generated feedback on his resume.

RESUMEZ

Upload Your Resume

Never lose your dream job with ResumeZ

Drop your resume for an ATS score and 'Improvement' cheat-sheet

Company Name

PwC

Job Title


Assurance Associate

Job Description

If you...

Are an Accounting major in your 8th semester or have graduated
Have a minimum GPA of 3.00/4.00
Are fluent in English (both written and spoken)
Are expected to graduate in 2025 and able to join PwC between July - September

Upload Your Resume

padli.cv.pdf
154.42 KB

×

Analyze Resume

CASE STUDY

He only needs to input:

- The company he dreams of working for
- The desired position
- The job description attached to the vacancy
- His resume in PDF file

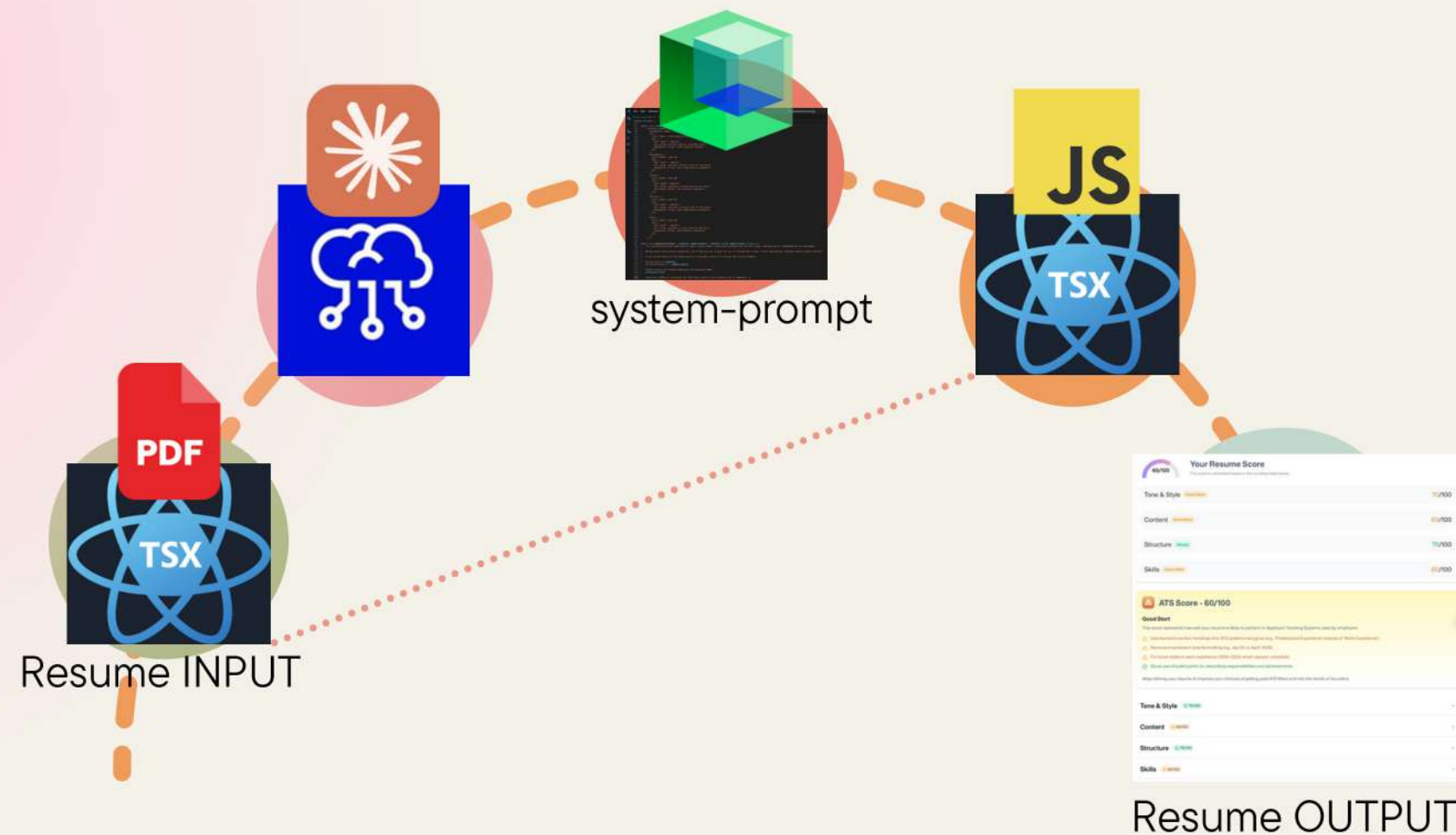
Then, Fadli clicked 1 button : **Analyze Resume**

Then he got a detailed ATS analysis and improvements insight

The image is a collage of two resume review documents and a large amount of colorful confetti. The top document is a resume for Fadhl Pratama Nugraha, a 6th-semester Accounting undergraduate student. It includes contact information, a summary of skills and experience, and a 'CERTIFICATION AND COURSE' section. The bottom document is an 'ATS Score - 60/100' report, which provides feedback on the resume's performance in Applicant Tracking Systems. The report includes a 'Good Start' rating and several suggestions for improvement, such as using standard section headings, removing inconsistent date formatting, and fixing future dates in work experience. The background of the collage is white, and the confetti consists of various colored dots and lines in shades of blue, orange, pink, and red.

DATA & USER FLOW

From Upload to Insight



Step 1: INGESTION

Users log-in and upload resumes and job descriptions via the frontend. Puter.js handles file storage and metadata



Step 2: TRANSFORMATION

PDF resumes are converted to PNG images on the client-side for efficient preview.



Step 3: AI ANALYSIS

API calls to Claude Sonnet on Puter backend are executed using the IBM Granite optimized system prompt



Step 4: OUTPUT

The AI returns the analysis in structured JSON format



Step 5: VISUALIZATION

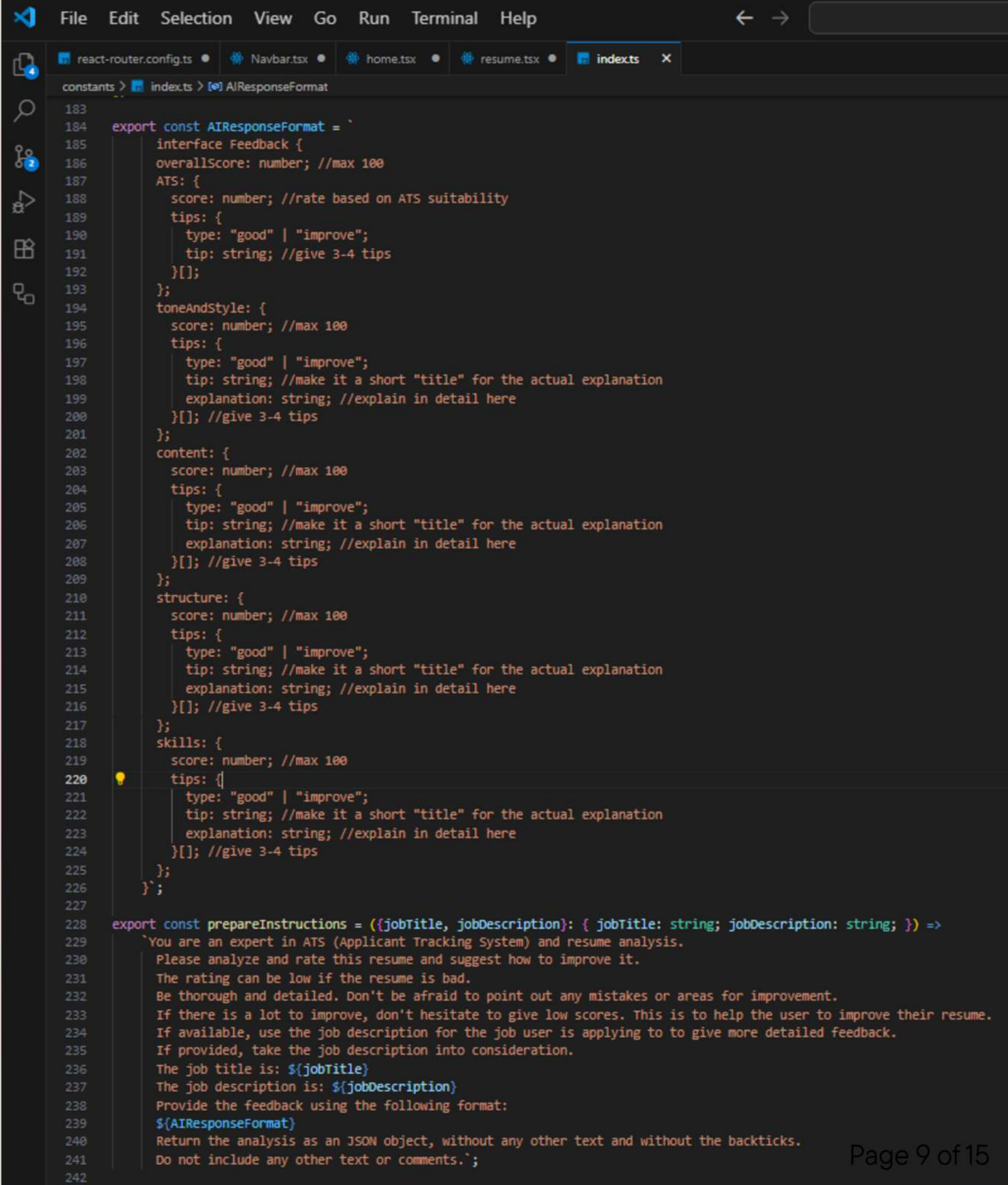
JSON data is parsed and displayed as easy-to-understand feedback in the React UI

[NEXT](#)

IBM Granite's Contribution

This is the default prompt that I copy from the instructor.

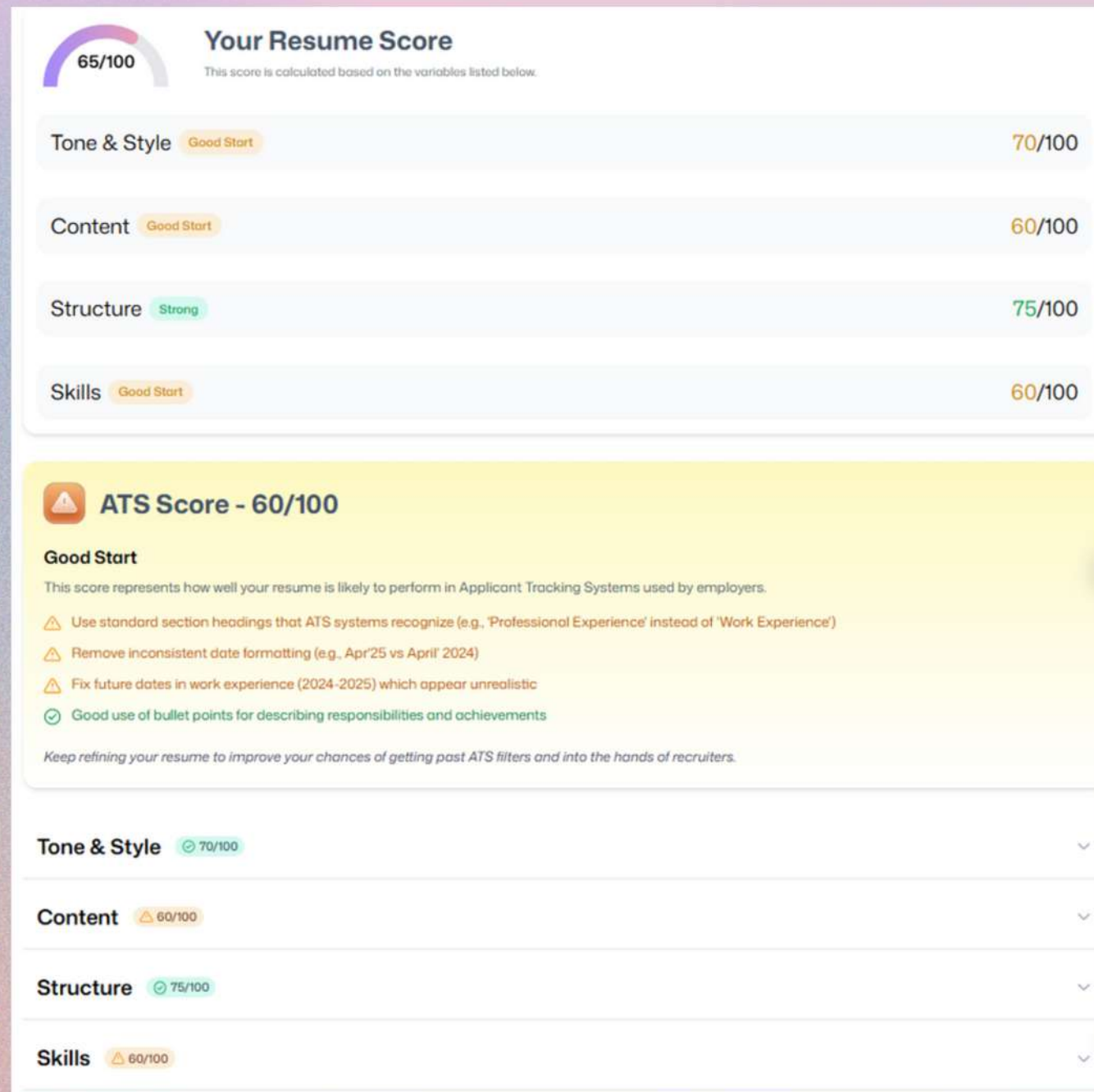
NEXT



```
File Edit Selection View Go Run Terminal Help
react-router.config.ts • NavBar.tsx • home.tsx • resume.tsx • index.ts x
constants > index.ts > AIResponseFormat
183
184 export const AIResponseFormat = `
185   interface Feedback {
186     overallScore: number; //max 100
187     ATS: {
188       score: number; //rate based on ATS suitability
189       tips: {
190         type: "good" | "improve";
191         tip: string; //give 3-4 tips
192       }[];
193     };
194     toneAndStyle: {
195       score: number; //max 100
196       tips: {
197         type: "good" | "improve";
198         tip: string; //make it a short "title" for the actual explanation
199         explanation: string; //explain in detail here
200       }[]; //give 3-4 tips
201     };
202     content: {
203       score: number; //max 100
204       tips: {
205         type: "good" | "improve";
206         tip: string; //make it a short "title" for the actual explanation
207         explanation: string; //explain in detail here
208       }[]; //give 3-4 tips
209     };
210     structure: {
211       score: number; //max 100
212       tips: {
213         type: "good" | "improve";
214         tip: string; //make it a short "title" for the actual explanation
215         explanation: string; //explain in detail here
216       }[]; //give 3-4 tips
217     };
218     skills: {
219       score: number; //max 100
220       tips: {
221         type: "good" | "improve";
222         tip: string; //make it a short "title" for the actual explanation
223         explanation: string; //explain in detail here
224       }[]; //give 3-4 tips
225     };
226   };
227
228 export const prepareInstructions = ({jobTitle, jobDescription}: { jobTitle: string; jobDescription: string; }) =>
229   `You are an expert in ATS (Applicant Tracking System) and resume analysis.
230   Please analyze and rate this resume and suggest how to improve it.
231   The rating can be low if the resume is bad.
232   Be thorough and detailed. Don't be afraid to point out any mistakes or areas for improvement.
233   If there is a lot to improve, don't hesitate to give low scores. This is to help the user to improve their resume.
234   If available, use the job description for the job user is applying to to give more detailed feedback.
235   If provided, take the job description into consideration.
236   The job title is: ${jobTitle}
237   The job description is: ${jobDescription}
238   Provide the feedback using the following format:
239   ${AIResponseFormat}
240   Return the analysis as an JSON object, without any other text and without the backticks.
241   Do not include any other text or comments.`;
242
```


IBM GRANITE'S CONTRIBUTION

The resume **BEFORE** using the refined prompt generated using IBM Granite



- The resulting output is less actionable and does not provide maximum value to users.
- Not strict enough in assessing score analysis
- Lack of detail in providing suggestions for improvement

System-prompt generated from IBM Granite 3.3-8b Instruct

Because I have personal experience in determining effective LLM, I suspect the default system prompt can still be refined further for more targeted results.

The screenshot displays the Hugging Face interface for the `ibm-granite/granite-3.3-8b-instruct` model. The page includes a search bar, navigation links (Dashboard, Explore, Create, Pricing, Enterprise, Docs, Blog), and a prominent `Run with an API` button. The model's description states it is a 8-billion parameter 128K context length language model fine-tuned for improved reasoning and instruction-following capabilities. It is marked as 'Warm', 'Official', and has 1.3M runs. The interface is divided into 'Input' and 'Output' sections. The 'Input' section shows a prompt string with instructions to refine a system-prompt template for an AI-powered resume analyzer web app, emphasizing the need to validate the prompt description to prevent hallucinations and ensure effectiveness. The 'Output' section displays the refined version of the system prompt, which is a JavaScript code snippet defining an `AIResponseFormat` interface and an `ATS` object with fields for score, tips, and explanation.

Input

prompt string

This prompt as follows is a system-prompt template from the AI-powered resume analyzer web app.

Don't change output format 'AIResponseFormat'; instead, validate the prompt description to prevent hallucinations and ensure it is more effective for its intended purpose.

WITHOUT comprehensive auditing, DIRECTLY GENERATE A REFINED VERSION FOR IMMEDIATE USE!

```
"""
export const AIResponseFormat = `
  interface Feedback {
    overallScore: number; //max 100
    ATS: {
      score: number; //rate based on ATS suitability
      tips: {
        type: "good" | "improve";
        tip: string; //provide concise, actionable advice
        explanation: string; //offer detailed rationale
      }[];
    };
    toneAndStyle: {
      score: number; //max 100
      tips: {
        type: "good" | "improve";
        tip: string; //provide a succinct title for the advice

```

Output

Refined Version for Immediate Use:

```
```javascript
export const AIResponseFormat = `
 interface Feedback {
 overallScore: number; //max 100
 ATS: {
 score: number; //rate based on ATS suitability
 tips: {
 type: "good" | "improve";
 tip: string; //provide concise, actionable advice
 explanation: string; //offer detailed rationale
 }[];
 };
 toneAndStyle: {
 score: number; //max 100
 tips: {
 type: "good" | "improve";
 tip: string; //provide a succinct title for the advice

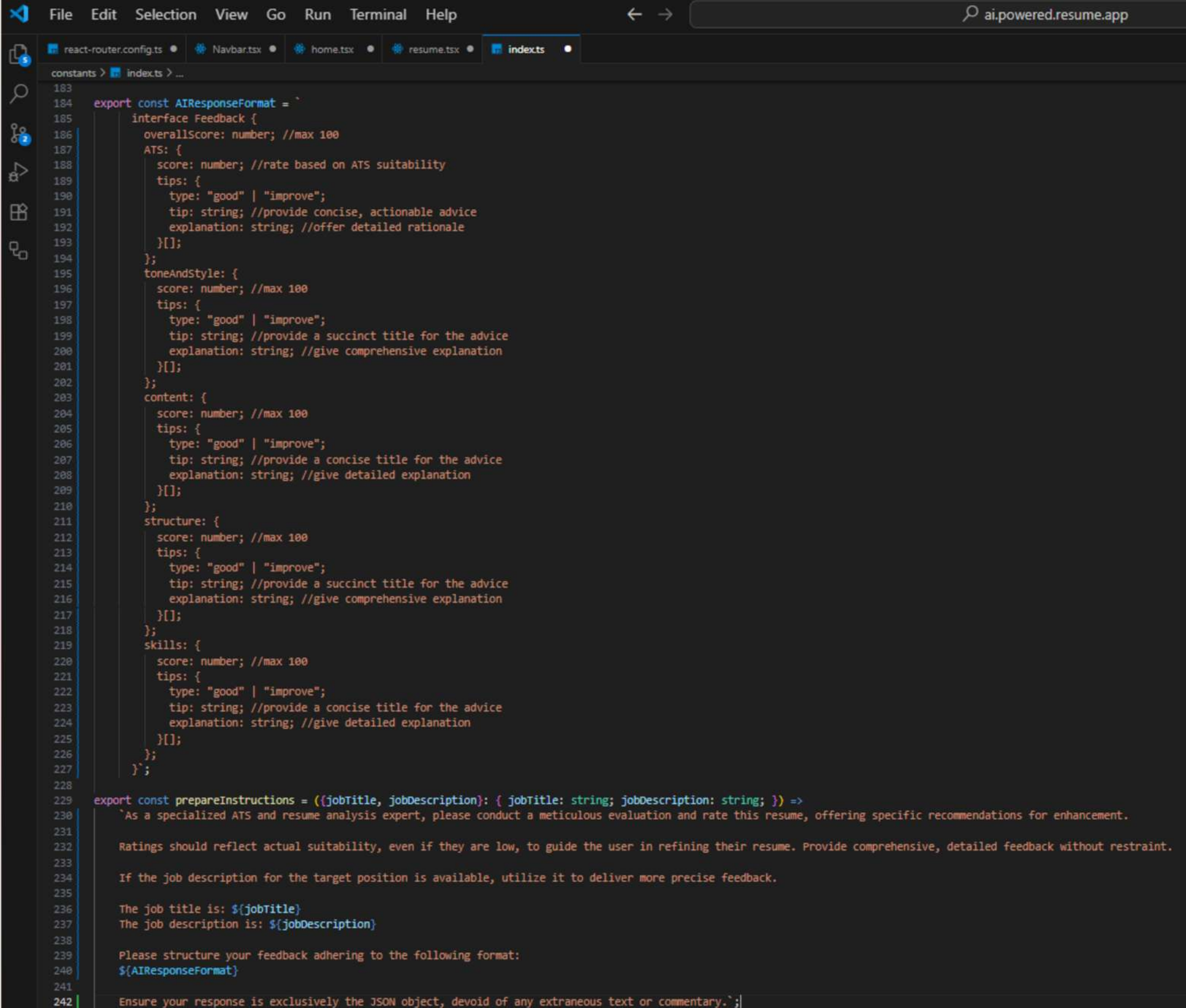
```



IBM Granite's Contribution

# This is System-prompt generated from IBM Granite 3.3-8b Instruct

NEXT



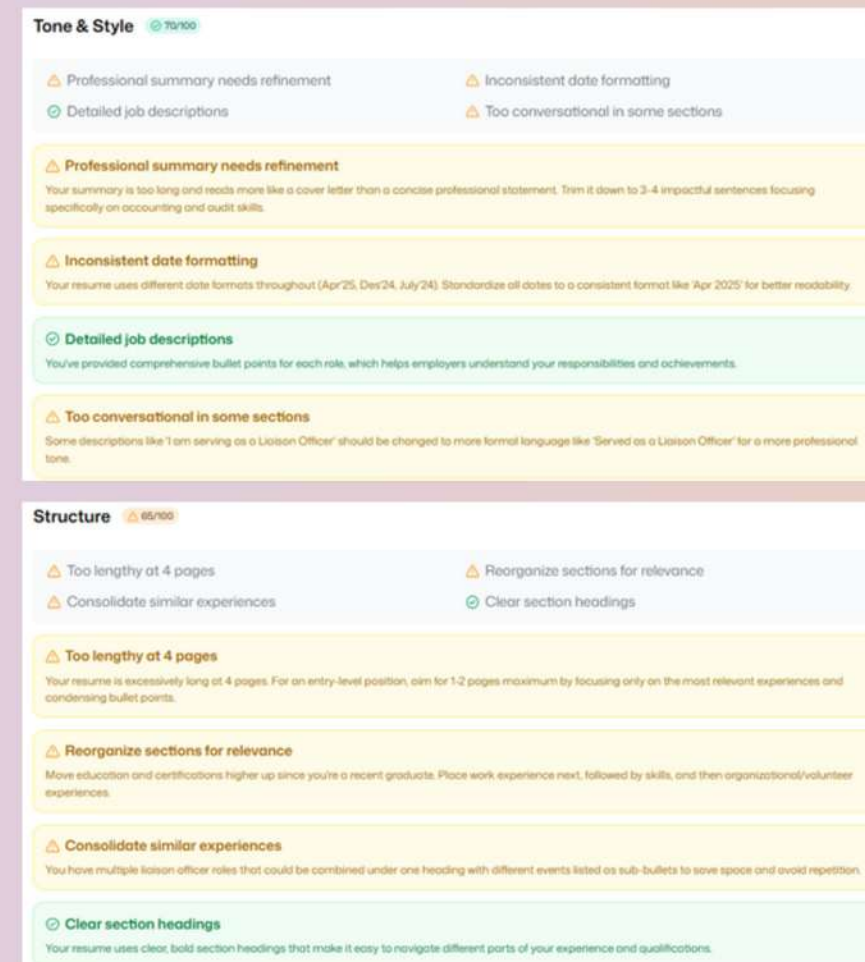
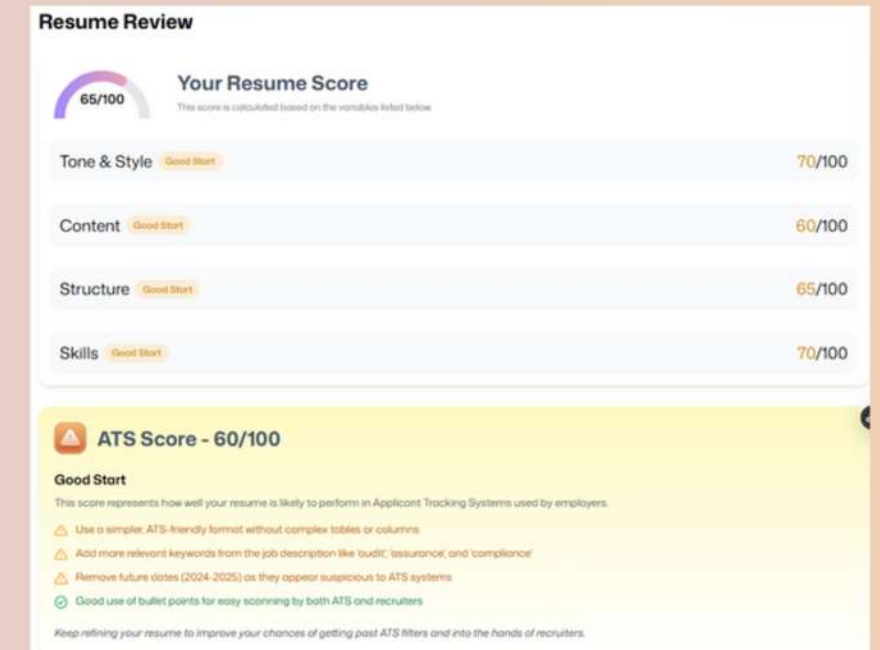
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File Edit Selection View Go Run Terminal Help
react-router.config.ts Navbar.tsx home.tsx resume.tsx index.ts
constants > index.ts > ...
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186 overallScore: number; //max 100
187 ATS: {
188 score: number; //rate based on ATS suitability
189 tips: {
190 type: "good" | "improve";
191 tip: string; //provide concise, actionable advice
192 explanation: string; //offer detailed rationale
193 }[];
194 };
195 toneAndStyle: {
196 score: number; //max 100
197 tips: {
198 type: "good" | "improve";
199 tip: string; //provide a succinct title for the advice
200 explanation: string; //give comprehensive explanation
201 }[];
202 };
203 content: {
204 score: number; //max 100
205 tips: {
206 type: "good" | "improve";
207 tip: string; //provide a concise title for the advice
208 explanation: string; //give detailed explanation
209 }[];
210 };
211 structure: {
212 score: number; //max 100
213 tips: {
214 type: "good" | "improve";
215 tip: string; //provide a succinct title for the advice
216 explanation: string; //give comprehensive explanation
217 }[];
218 };
219 skills: {
220 score: number; //max 100
221 tips: {
222 type: "good" | "improve";
223 tip: string; //provide a concise title for the advice
224 explanation: string; //give detailed explanation
225 }[];
226 };
227 `;
228
229 export const prepareInstructions = ({jobTitle, jobDescription}: { jobTitle: string; jobDescription: string; }) =>
230 `As a specialized ATS and resume analysis expert, please conduct a meticulous evaluation and rate this resume, offering specific recommendations for enhancement.
231
232 Ratings should reflect actual suitability, even if they are low, to guide the user in refining their resume. Provide comprehensive, detailed feedback without restraint.
233
234 If the job description for the target position is available, utilize it to deliver more precise feedback.
235
236 The job title is: ${jobTitle}
237 The job description is: ${jobDescription}
238
239 Please structure your feedback adhering to the following format:
240 ${AIResponseFormat}
241
242 Ensure your response is exclusively the JSON object, devoid of any extraneous text or commentary.`;
```



# IBM GRANITE'S CONTRIBUTION

Same resume **AFTER** using the enhanced system-prompt (by IBM Granite) and then implemented in the updated system deployment.

- Actionable
- Strict & Detail
- Critical & Sharp
- Maximum Insight





# TECHNICAL REFLECTIONS & FUTURE VISION

## Most Important Technical Lesson

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“Through this project, I learned that the key to effective prompt engineering isn't tricks, but rather linguistic precision.

The ability to explicitly define logical relationships between inputs in a prompt is what differentiates shallow AI analysis from deep AI analysis.

This experience, supported by insights from IBM materials, honed my ability to design AI instructions.”

## Next Technical Feature

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The next logical step is to build an Editor with Real-Time Scoring.

This will be an interesting frontend engineering challenge, where users can edit their resumes, and ATS scores will be updated live through efficient API calls and reactive state management.

This will transform the application from an analysis tool to an interactive writing assistant.”



"In general, it's best if you're building something that you yourself need" ~Sam Altman

# Thank you

 <https://github.com/technologyzzz/ai.powered.resume.app>