Jobiter

Smart Job Application Assistant

Team: Kevin Wu, Eric Zhao, Viola Xu, Aryavrat Gupta, Jacky Wang, Madhu Rajaprakash

Mentors: Dr. Anton Dahbura, Dr. Lawrence Aronhime

Johns Hopkins Whiting School of Engineering

Project Abstract

We're **Jobiter** - a team of Hopkins students building an **intelligent web platform to transform the job application process** for college students and new graduates.

By integrating **AI-powered resume and cover letter optimization**, application form **auto-filling**, and **job recommendations** based on individuals' skills and qualifications, Jobiter streamlines the repetitive, time-consuming, and often **demoralizing experience of navigating ATS (Applicant Tracking System)** platforms:

icims, workday, Greenhouse, RIPPLEMATCH

Through **powerful automation** and **customization**, Jobiter dramatically boosts users' chances of **advancing past ATS filters** and reaching the next stage of recruiting - the interviews.

Motivation

What percentage of online job applications **get sorted out by AI resume readers** on ATS platforms, before they ever meet human eyes?

This differs between applicants; but a conservative estimate is **80% to over 90%**:

An average Hopkins student spends well over 100 hours on their job search; that is **100 hours wasted** on labor that generates 0 return!

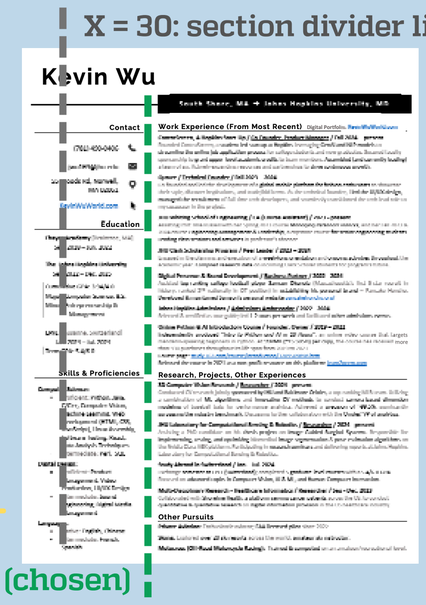
Select Components of Our Platform

1 Resumes come in countless formats - varying section sizes, layouts, and even multiple columns - which is why **even dominant ATS platforms** like Workday **struggle with accurate resume parsing**.

At Jobiter, we've tackled this challenge head-on. Developing **an original voting-based algorithm inspired by K-means clustering**, we precisely segment resumes into sections, feed them into an LLM-powered parser, and deliver results that are far **more accurate and comprehensive** than existing solutions.

Step 1: Segmentation 👉

X = 30: section divider likelihood = -50 (voted out)



X = 100: section divider likelihood = 99 (chosen)

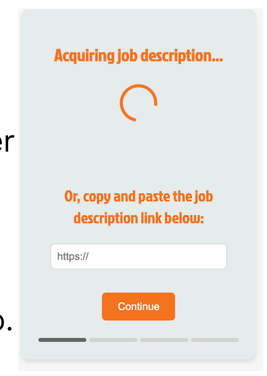
MISTRAL AI_

👆 Step 2: LLM-Powered Parser

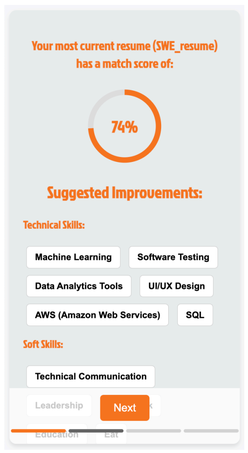
Our parser is powered by **Mistral AI**, a **lightweight LLM** that seamlessly integrates with our AWS backend - each parse would only cost ~$0.0005!

2 Resume Optimization Workflow:

When you start a job application online, our browser extension will **automatically acquire the job description** and extract crucial info.

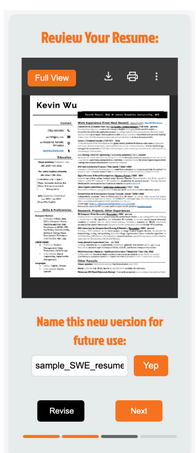


Our resume optimization engine (**powered by GPT-4o**) compares your resume to the position, **generates a match score**, and offers resume optimization **suggestions that you can effortlessly adopt**.



Then, review and confirm your resume.

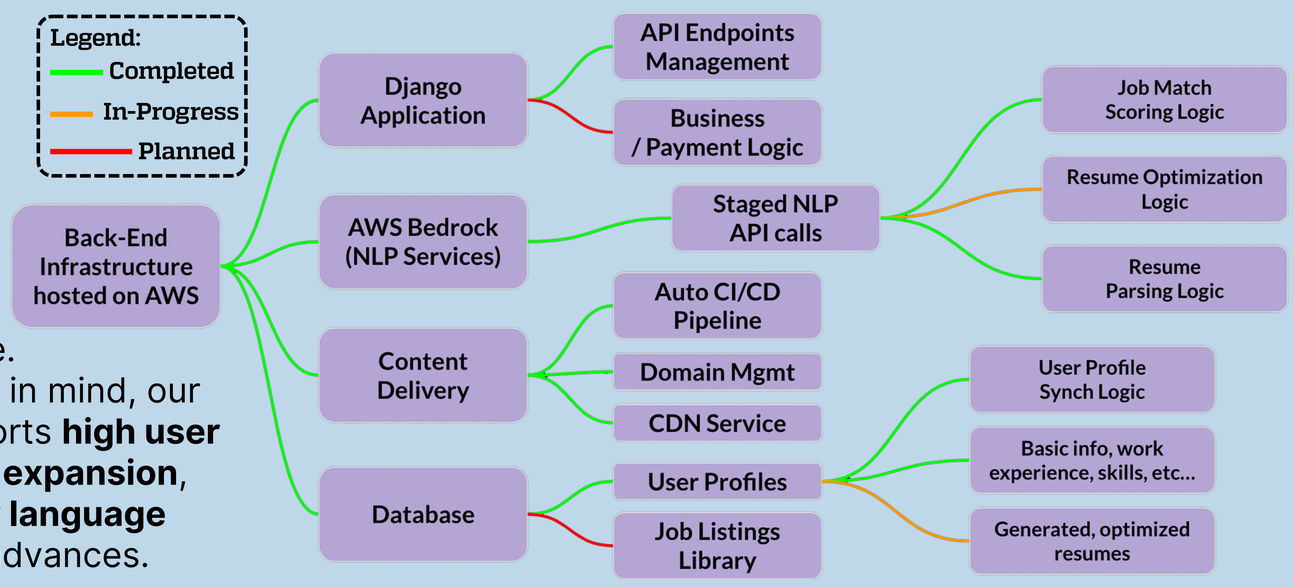
Our **auto-fill function** will take it from there! With **just one click**, your forms are filled to perfection, and **your application is ready to submit**!



In just 3 minutes, you have a high-quality application 🚀

3 Back-end Architecture

Our back-end infrastructure, currently 90% complete and fully **hosted on AWS**, is engineered for **high scalability, reliability, and low-latency** user experience. Designed with future growth in mind, our back-end architecture supports **high user concurrency**, **quick feature expansion**, and **easy integration of new language models** as NLP technology advances.



Are existing job application tools widely adopted by frustrated applicants? **Not even close**.

Some platforms (e.g. VMock) were designed to appeal to human recruiters and are **poorly-suited for today's ATS-dominated landscape**. Others (e.g. Jobscan, Simply) **lack robust automation**, often leaving users burdened with repetitive, manual adjustments.

	Jobiter	Simplify	Jobscan	VMock
Offers Reliable Auto-Fill?	✅	🤨	❌	❌
Offers Resume Optimization Tips?	✅	✅	✅	✅
High Level of Automation?	✅	🤨	❌	❌

To Learn More

Our platform, **jobiter.co**, is live! Currently, some of our features are still work-in-progress.

Please stay tuned for a **fully functional MVP** (Minimum Viable Product) that we'll release very soon!