



HCLTech Slashes Recruitment Time by 25% with GenAI Co-Pilot, Saving \$5M Annually

HCLTech

Best Use of AI for Talent Acquisition

November 2024



Company Background



Company-at-a-Glance	
Headquarters	Noida, Uttar Pradesh
Year Founded	1976
Revenue	\$13.1B
Employees	224,000
Global Scale	With 60+ Innovation Labs that help ideate, develop, and deliver futuristic solutions through next generation technologies for the business transformation journeys of the clients. 210+ Delivery Centers support global customers and partners by providing access to the latest technology expertise and business-oriented technology solutions.
Customers/Output, etc.	HCLTech offers its services and products through three business units: IT (Information Technology) and Business Services (ITBS), Engineering and R&D Services (ERS) and Products & Platforms (P&P). With a focus on Cloud and AI/ML, HCLTech drives.
Industry	Information Technology
Stock Symbol	BSE: 532281; NSE: HCLTECH
Website	http://www.hcltech.com/



Budget and Timeframe

Budget and Timeframe	
Overall budget	400,000 USD
Number of (HR, Learning, Talent) employees involved with the implementation?	13
Number of Operations or Subject Matter Expert employees involved with the implementation?	3
Timeframe to implement	7 months
Start date of the program	August 2023

Fit to the Needs

About HCLTech:

HCLTech is a business enterprise with presence in the fields of technology and healthcare. Founded in 1976 as one of India's original IT garage startups, the HCLTech enterprise currently comprises three companies in India - HCL Technologies, HCL Infosystems and HCL Healthcare with annual revenues of US\$ 6.75 billion and over 111,000 professionals from diverse nationalities operating across 31 countries including over 500 points of presence in India. In the technology space, HCLTech's offerings span a wide range of software and hardware services and solutions including R&D, Technology Services, Enterprise and Applications Consulting, Remote Infrastructure Management, IT Hardware, Systems Integration, Distribution of Technology and Telecom Products. A new entrant in Healthcare, HCLTech aims to provide innovative medical services, products and training to meet the growing demand for quality Healthcare in India. For further information, visit www.hcl.com.

HCLTech America, Inc. was established in California in November 1988. The company provides consultancy in system software, database application software and hardware design. In each area, the organization offers commonly needed services, including analysis, design, development, porting, and quality assurance. HCL America, Inc. currently employs over 11000 people and has established major branch offices in Hartford, CT; Plano, TX; Florham Park, NJ; Cary, NC; and Irvine, CA amongst others in the USA.

Business need:

As the driving force behind acquiring top talent, TAG directly influences the company's ability to innovate, deliver exceptional service, and maintain competitiveness in the market. In today's dynamic business landscape, where skilled professionals are in high demand, a robust TAG function becomes even more crucial. By attracting and retaining top talent, HCLTech ensures continuity in delivering high-quality products and services, driving customer satisfaction and loyalty. Moreover, a strong TAG function contributes to cost efficiency and profitability by minimizing recruitment cycle time, reducing turnover costs, and optimizing resource allocation. Ultimately, investing in TAG function not only sustains HCLTech's current operations but also lays the foundation for future growth and success in an increasingly competitive market.

The Core Talent Acquisition Group (TAG) team engaged in this exercise pondered: Would implementing GenAI in TAG streamline the recruiter's role or render it redundant? This question motivated and drove the team to conduct experiments with LLMs to assess the outcomes.

The below listed Goals and corresponding metrics are used to evaluate the Talent Acquisition Group (called TAG in HCLTech) that underscores its direct linkage to business impact.

- **Fulfillment:** - Measures the time taken to fill open positions. A shorter TAT indicates increased operational efficiency and reduced productivity loss. By using GenAI to analyze candidate profiles, identify suitable matches, and automate initial screening processes, it rapidly shortlisted candidates who meet job requirements, significantly reduced the TAT & expedited the recruitment cycle time.
- **Quality of Hire:** Assesses the performance and suitability of new hires. High Quality of Hire (QoH) correlates with improved business outcomes, such as increased productivity and customer satisfaction. GenAI assists in crafting detailed job descriptions tailored to specific roles, ensuring alignment between candidate skills and organizational needs. By generating comprehensive skill metrics and competency assessments, GenAI-driven insights enhanced the accuracy of candidate evaluation, leading to higher QoH.



- **Offer Acceptance Rate:** - Tracks the percentage of job offers accepted by candidates. A high acceptance rate reflects effective candidate engagement and alignment of job offers with candidate expectations. GenAI analyzed historical data and candidate preferences to optimize offer structures and content. By generating personalized and compelling mailers, GenAI increases the likelihood of offer acceptance, thereby improving the offer acceptance rate.
- **Cost Per Hire (CPH):** - Calculates the cost incurred to hire a single employee. Lower CPH signifies cost efficiency in recruitment processes, contributing to overall profitability. By automating repetitive tasks such as resume screening and interview scheduling, GenAI reduces manual effort and minimizes resource allocation. This results in lower recruitment costs and a more efficient hiring process, ultimately reducing CPH. Last year, from October to March quarters, there was a significant improvement in CPH reduction from \$1407 to \$1058.
- **Diversity Hire:** - Tracks diversity-related metrics, such as the percentage of diverse hires representing in the workforce. A diverse workforce fosters innovation, creativity, and better decision-making, positively impacting business performance and market reach. GenAI mitigates unconscious bias in candidate selection by anonymizing resumes and assessing candidates based solely on qualifications and skills. By promoting diversity and inclusion, GenAI-driven recruitment processes contribute to a more diverse workforce.

The objective of using GenAI tools in TAG activities is to improve the overall recruitment efficiency – Faster hiring timelines, improving the hiring quality, providing value add to all the stakeholders in the organization.

In the current scenario within the delivery organization, there is a common challenge where recruiters are often challenged with sourcing quality profiles based on shared keywords without having access to the complete job descriptions (JDs). This can result in delays as recruiters need to reach out to the delivery team for the complete JD, which can take considerable time. However, by implementing GenAI technology, this process was streamlined significantly. Recruiters were now able to swiftly provide the necessary keywords, and in a matter of seconds, the LLMs generated comprehensive JDs that include all the required keywords and additional information. This not only expedites the recruitment process but also ensures that recruiters have access to accurate and complete information right from the outset.

As a result, hiring TAT is dramatically improved, enabling the recruitment team to source quality profiles more efficiently and effectively, ultimately driving greater productivity and success for the organization.

As a next step, the key recruitment processes were identified with a clear timeline indicator (time spent by the recruiter) to measure the GenAI Effectiveness. The below mentioned actions were finalized:

- Gain a thorough understanding of the GenAI technologies available for TAG usage. This could range from GenAI-powered applicant tracking systems (ATS) to resume screening algorithms, chatbots for candidate engagement, or predictive analytics for identifying top talent.
- While working on GenAI tools, ensure that the data verification is done thoroughly to avoid any hallucination. Also, transparency of GenAI usage in each step, informing the involved stakeholders about the GenAI usage, with accountability information is important. The performance of GenAI should be constantly reviewed.
- The TAG SPOCs should be equipped with proper training in GenAI usage, establish guidelines and policies for responsible use of GenAI in TAG, emphasizing principles such as fairness, transparency, accountability, and privacy.
- The Measurement of GenAI usage effectiveness should also factor improved employee satisfaction, increased diversity in hiring, reduced bias, and overall alignment with organizational goals.

Understanding the potential of GenAI required a paradigm shift in how recruitment is approached. Unlike traditional recruitment methods, which often rely on manual processes and subjective decision-making, GenAI brought forth a new era of efficiency and objectivity. It's not just about automating tasks; it's about augmenting the capabilities of recruitment teams with intelligent tools that learn, adapt, and enhance the entire hiring lifecycle.

Design

Design focus was recruitment task level AI exposure, defined as the volume of tasks/activities that could be replaced or augmented by Generative AI both leading to effort savings and/ or enhanced quality output.

Leveraged global research to guide design:

To begin with, we utilized independent studies done by Open AI & Wharton (reference paper: GPTs are GPTs: An early look at the labor market impact potential of large language models), and ILO (published paper: Generative AI and jobs: A global analysis of potential effects on job quantity and quality) which used publicly available job databases to estimate parts of the Talent acquisition function impacted the most by large language models.

We adopted research methodologies from OpenAI & Wharton, and ILO, and tailored them with our HCLTech job descriptions (JDs) to develop a Custom GPT model. This model assigned work activities based on job purpose and responsibilities and mapped work activities to Core vs Supplemental. Utilized the level of impact scoring available through these published researches, and developed a detailed rubric to compute highest impact packets of work for each job. This work helped in prioritizing the areas to focus more in our Gen AI for TA project.

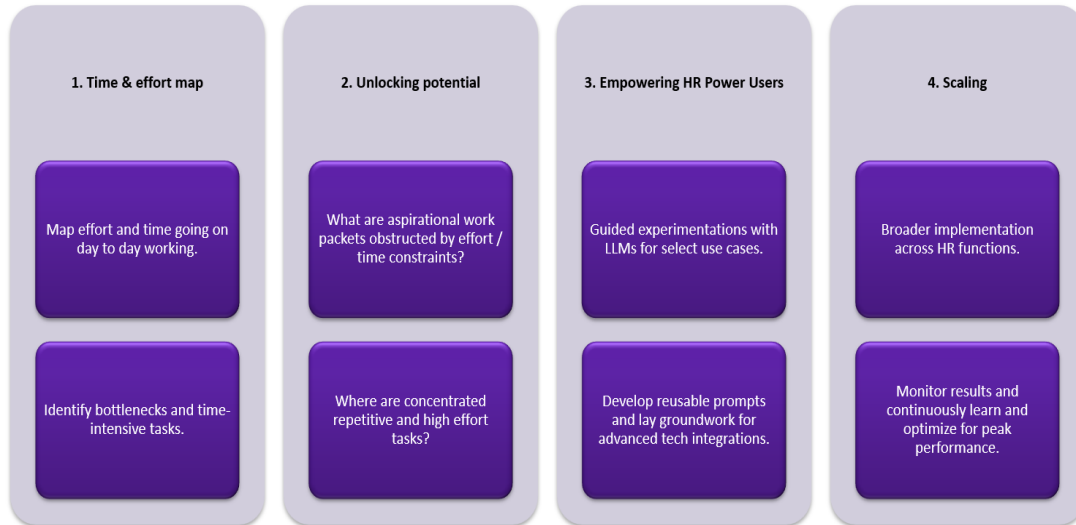
Business workflow driven:

Equipped with insights from external research led impact study of HCLTech work, a systematic approach was adopted for identifying current challenges being faced in day-to-day operations of TA function or potential opportunities to add value which today is not happening due to bandwidth constraints. These listed work areas were meticulously explored for potential case of augmenting Generative AI to speed up the transactions or bring significant value add through the level of detailed output generated by large language models. Team focused on innovative solutions with LLM usage to address current challenges, unlock new efficiencies, and drive innovation in HR practices.



Where and How to leverage LLM?

- Systematic approach from current challenges to innovative solutions with LLM.



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HCLTech

1. Time & Effort Map:

- Conduct a comprehensive assessment of existing HR processes to identify where time and effort are being expended.
- Document the steps involved in each process and quantify the resources allocated to them.
- Analyze the data to pinpoint areas of inefficiency or tasks that could benefit from automation or augmentation with LLM technology.

2. Unlocking Potential:

- Identify aspirational work packets within HR that are constrained by time or effort limitations.
- Look for tasks or processes where there is potential for improvement but are hindered by resource constraints.
- Identify areas where repetitive and high-effort tasks are concentrated, as these are prime candidates for LLM-driven automation or augmentation.



3. Empowering HR Power Users:

- Select a group of HR power users or champions who will lead the adoption of LLM technology within the HR department.
- Conduct guided experimentations with LLMs for specific use cases, such as resume screening, candidate sourcing, or employee engagement surveys.
- Develop reusable prompts and templates to streamline interactions with LLMs and make them accessible to all HR team members.
- Lay the groundwork for advanced tech integrations by training HR power users on LLM capabilities and exploring potential integrations with existing HR systems or tools.

4. Scaling:

- Based on the success of pilot experiments and guided trials, expand the implementation of LLM technology across broader HR functions.
- Develop a scalable framework for deploying LLM solutions across different HR processes and use cases.
- Continuously monitor the results and gather feedback from HR teams to refine LLM workflows and optimize performance.
- Invest in ongoing learning and development to stay updated on the latest advancements in LLM technology and continuously improve HR processes.

After doing a careful analysis on the available GenAI Tools which can enhance TAG activities, ChatGPT and Gemini LLMs were tested against the key recruitment activities and the outcomes were measured against each step. Following were target use cases which we are incrementally adding to our offerings for TA function effectiveness:

GenAI Tools support the TAG activities by validating and matching the job requirements with candidates' skills, role matching, relevant experience and the candidate preferences as well. This reduces the screening rejections done.

GenAI analyze candidates' resumes, cover letters, and online profiles to assess their qualifications, skills, and cultural fit. This automated screening process saves time for recruiters and ensures that only the most qualified candidates progress to the next stage.



GenAI technology can make virtual interviews easier by using chatbots or video platforms. These tools can ask candidates questions that are already decided on, and then they can assess how the candidates answer. They look at things like how well they speak, their communication skills, and what kind of personality they have. There are also tools that help set up interviews automatically, which saves time for both the recruiters and the candidates.

GenAI tools can look at past hiring data to find trends that show what kinds of candidates tend to do well in different jobs. Using this information, recruiters can make smarter decisions about who to hire. This helps them find better candidates and keeps the dropout rates low because they're hiring people who are likely to stick around for a while.

GenAI chatbots can talk to candidates during the hiring process, giving them updates and answering their questions right away. They can also give personalized advice based on what the candidates like and how they behave. This enhances the overall candidate experience and reflects positively on the company as an employer of choice.

GenAI can help mitigate unconscious biases in the hiring process by focusing solely on candidates' qualifications and skills. By removing subjective human judgments, GenAI technology promotes fairness and diversity in recruitment efforts.

GenAI efficiently handles repetitive tasks with precision, allowing recruiters to focus on vital responsibilities such as building rapport with candidates, conducting thorough interviews, and strategizing to attract top talent. With GenAI's ability to swiftly complete tasks, companies can manage hiring for numerous positions without compromising on quality.

For phase 1, we focused on early wins that can be gained through open Generative AI models. In Phase 2, we are covering technology led integrations and building custom solutions to further take the TA function into next orbit of impact.



The TAG team meticulously identified and outlined the day-to-day activities involved in the recruitment process. The 13 activities listed below encompass the entire recruitment lifecycle, starting from crafting the Job Description (JD) to onboarding the selected candidate. Each step plays a crucial role in ensuring a smooth and efficient recruitment process, from defining the role requirements to welcoming the new hire into the organization. By delineating these activities, TAG teams can effectively manage and optimize each stage, leveraging appropriate strategies and resources to achieve the recruitment goals while aligning with the organization's needs and objectives.

S.No	Activities Recruiters Perform
1	Creating and improving JDs
2	Understanding and mapping skill adjacencies
3	Understanding & creating search string outputs for sourcing
4	Preliminary screening questions (technical)
5	Screening & summarizing the profiles
6	Informing candidates about screening shortlist for specific project opportunity
7	Scheduling screen shortlisted candidates for specific project opportunity
8	Candidates update at each stage of process
9	Documents collection for offer process
10	Offer status
11	Clarifying terms & conditions of offer, policies, benefits etc.
12	Guiding for document filling for BGV & other forms for joining.
13	Onboarding guidelines for New Joiners
14	Market Intelligence

Creating and improving JDs: In this stage, GenAI facilitates the creation and refinement of job descriptions (JDs) by analyzing industry trends, company requirements, and candidate expectations. By leveraging natural language processing (NLP), GenAI ensures that JDs are comprehensive, accurate, and appealing to potential candidates.



In the realm of recruitment, the task of creating and refining job descriptions (JDs) is paramount to attracting the right talent for the organization's needs. With the integration of GenAI technology, this process has been revolutionized, allowing for the swift generation of detailed JDs with comprehensive skill explanations. By harnessing the power of GenAI, recruitment teams can now produce high-quality JDs in a fraction of the time it previously took. This not only expedites the recruitment timeline but also equips the delivery team with the necessary information to source candidates more effectively. With detailed skill explanations provided by GenAI, recruiters and delivery teams can better understand the requirements of each role, facilitating smoother communication and ensuring alignment between candidate profiles and organizational needs. As a result, recruitment processes are streamlined, and the delivery team is empowered to deliver quality candidates within shorter time frames, ultimately enhancing overall efficiency and effectiveness in TAG.

Understanding and mapping skill adjacencies: GenAI assists recruiters in identifying and mapping skill adjacencies by analyzing job requirements, candidate profiles, and market trends. This enables recruiters to better understand the interconnectedness of skills and competencies, ensuring a more strategic approach to candidate sourcing and selection.

Numerous recruiters encounter difficulties engaging in in-depth discussions with the delivery teams because of their limited technical expertise. This reluctance frequently results in communication gaps and an inability to clearly convey the needs. By leveraging GenAI, recruiters can now overcome these barriers with ease. GenAI provides insights into skill adjacencies, empowering recruiters to propose additional skills confidently during discussions with the delivery teams. This not only bridges the gap in technical knowledge but also fosters collaboration and alignment between recruitment and delivery teams. With GenAI as a supportive tool, recruiters can effectively navigate discussions, ensure comprehensive skill coverage, and ultimately enhance the quality of candidate sourcing.

Understanding & creating search string outputs for sourcing: GenAI streamlines the sourcing process by generating effective search strings based on specific criteria and keywords. By automating this task, GenAI saves time and effort for recruiters, enabling them to focus on engaging with potential candidates and building relationships.



In the process of sourcing candidates, understanding, and crafting effective search strings is a critical skill that can significantly impact the success of recruitment efforts. Mastering this skill can be daunting for recruiters who are new to the field of sourcing. However, with the assistance of GenAI, this task becomes more manageable and accessible. GenAI aids new recruiters in learning the intricacies of crafting Boolean search strings by providing real-time guidance and suggestions. By analyzing patterns and trends in candidate profiles, GenAI offers insights into the creation of search strings tailored to specific job requirements. This not only accelerates the learning curve for new recruiters but also enhances the efficiency and accuracy of candidate sourcing tasks. With GenAI as a supportive tool, recruiters can quickly grasp the fundamentals of sourcing and contribute effectively to the recruitment process, ultimately driving positive outcomes for the organization.

Preliminary screening questions(technical): GenAI helps recruiters create tailored preliminary screening questions to assess candidates' technical skills and qualifications. By analyzing job requirements and candidate profiles, GenAI ensures that screening questions are relevant and effective in identifying suitable candidates for further consideration.

In the recruitment process, preliminary screening of candidates is a critical step that often involves considerable time and effort. However, challenges arise when the delivery team takes extensive time for screening profiles or rejects candidates without providing feedback, leading to inefficiencies and frustration for recruiters. Here GenAI provides the solution to address this issue and optimize productivity. By leveraging GenAI, recruiters are empowered to streamline the preliminary screening process effectively by providing a repository of screening questions and corresponding answers, eliminating the dependency on the delivery team for this crucial aspect of candidate screening. With access to tailored screening questions, recruiters can efficiently assess candidate suitability and filter profiles with greater accuracy. This not only saves time and effort for recruiters but also ensures a more transparent and consistent screening process. By harnessing the capabilities of GenAI, recruitment teams can enhance productivity, mitigate inefficiencies, and ultimately drive better outcomes in candidate selection.



Screening & summarizing the profiles: GenAI assists in screening and summarizing candidate profiles by extracting relevant information and highlighting key qualifications and experiences. This enables recruiters to quickly evaluate candidates and make informed decisions about their suitability for the role.

This functionality proves invaluable, particularly in scenarios where recruiters need to effectively present profiles to the delivery teams. With GenAI creating summaries, recruiters can highlight the unique selling points (USPs) of each candidate with clarity and precision. While summarizing profiles for bulk hiring may be challenging due to sheer volume, this task is most effective for leadership hiring. By articulating key attributes and accomplishments in a concise manner, GenAI summaries empower recruiters to swiftly advocate for candidates and facilitate informed decision-making with the delivery teams. This not only expedites the recruitment process but also enhances collaboration and ensures alignment between recruiters and delivery teams, ultimately driving efficiency and success in TAG efforts.

Informing candidates about screening shortlist for specific project opportunity: GenAI facilitates communication with candidates by providing personalized updates about their screening status for specific project opportunities. This enhances the candidate's experience and ensures transparency throughout the recruitment process.

Scheduling screen shortlisted candidates for specific project opportunities: GenAI simplifies the scheduling process by automatically coordinating interviews and meetings with shortlisted candidates for specific project opportunities. This eliminates scheduling conflicts and ensures a smooth and efficient interview process.

Candidates status update at each stage of process: GenAI provides real-time updates to candidates at each stage of the recruitment process, keeping them informed about their status and next steps. This enhances candidate engagement and satisfaction, leading to a positive overall experience.

Document collection for offer process: GenAI streamlines the document collection process by automatically gathering and organizing required documents for the offer process. This ensures compliance and reduces the administrative burden for recruiters.

Offer Status: GenAI provides updates on offer status to both candidates and recruiters, ensuring transparency and facilitating timely communication throughout the offer negotiation process.



Clarifying terms, conditions, policies, and benefits: GenAI assists in clarifying terms, conditions, policies, and benefits associated with job offers by providing accurate and up-to-date information to candidates. This ensures clarity and reduces ambiguity during the offer acceptance process.

Guiding for Document Filling for BGV & Other forms of joining: GenAI guides candidates through the document filling process for background verification (BGV) and other required forms for joining, ensuring completeness and accuracy of documentation.

Onboarding Guidelines for New Joiner: GenAI provides onboarding guidelines to new joiners, helping them navigate the onboarding process smoothly and onboard the organization effectively. This sets the stage for a positive and productive employee experience from day one.

Market intelligence: Before leveraging GenAI, TAG relied on job boards and social media platforms to gather data about the availability of resources with specific skills, their compensation, and the target companies. However, with GenAI, TAG now has access to a wealth of market intelligence, allowing them to obtain comprehensive information about competitive hiring companies. This newfound capability enables TAG to enhance their delivery by providing a broader range of information to their clients, facilitating more informed decision-making in hiring.

In summary, the use of GenAI technology has made the recruitment process efficient. It helped in creating job descriptions, finding the right skills for a job, and searching for candidates more effectively. It also helps recruiters ask candidates the right questions and summarize their profiles quickly. With GenAI, the TAG teams can keep candidates informed about their status and help them through the paperwork when they get a job offer. Overall, GenAI makes the hiring process smoother and faster, and now with the latest versions of LLMs, recruiters are better equipped in market intelligence to find the right talents for the organization.

Given the powerful outcomes seen in early stage of pilot, there was investment made to enable GPT 4.0 access for entire TA function. Extensive training and do-it-yourself series of guided workshops are conducted across all business units and geographies covering 80% of recruitment function. apart from work related tool kit, in-house training covered following crucial ethics about use of generative AI:

- **Privacy Concerns:** recruiters to watch out sharing sensitive/personal information, raising privacy issues.



- **Data Management:** Prioritize de-identification or anonymization to protect user identities.
- **Informed Consent:** Critical to inform users how their data is used.
- **Data Ownership:** Clarity needed on who owns data from interactions with LLMs.
- **Hallucination with LLMs:** LLMs may produce content similar to training data, deviating from company context.
- **Bias and Fairness:** Continuous efforts to mitigate biases and ensure fairness.

Visual Overview


The project covered most of the work through online access of large language models. There is aggressive work going in parallel to automate and integrate the Gen AI for TA co-pilot functionality into the recruitment platform. This is part of phase 2 which will expand the scope to chat BOTs, conducting screening and mock interviews, generating screening summary at scale, etc..


In phase 1, the team has meticulously crafted a comprehensive process flow comprising 13 stages to seamlessly implement GenAI in the recruitment process.

Each stage leverages the capabilities of GenAI to optimize various aspects of TAG, be it from crafting compelling job descriptions to facilitating smooth onboarding for new joiners. The approach begins with the creation and refinement of job descriptions, where GenAI ensures accuracy and appeal. It then progresses through stages such as understanding skill adjacencies, creating effective search strings for sourcing, and conducting preliminary screenings. GenAI also assists in scheduling interviews, providing updates to candidates at each stage, and facilitating document collection for the offer process. Furthermore, it guides candidates through the offer acceptance process, clarifies terms and conditions, and streamlines document filling for background verification and other required forms. Finally, GenAI offers comprehensive onboarding guidelines to ensure new joiners' transition seamlessly into their roles. This meticulously designed flow ensures efficiency, transparency, and effectiveness at every step of the recruitment journey.



Below is a snapshot of the prompt for creating a JD for Fullstack Software Engineer role:

 **Anonymous**
create JD -Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases and runs on AWS

 **ChatGPT**
Job Title: Full Stack Software Engineer

Job Description:

We are seeking a highly skilled and motivated Full Stack Software Engineer to join our dynamic team. As a Full Stack Software Engineer, you will be responsible for designing, developing, testing, and deploying scalable and robust software solutions. The ideal candidate should have a strong background in Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases, with experience in deploying applications on AWS.

Responsibilities:

- 1. Software Development:**
 - Design and develop high-quality software solutions using Java, React, TypeScript, and GraphQL.
 - Collaborate with cross-functional teams to define, design, and ship new features.
 - Ensure the performance, quality, and responsiveness of applications.
- 2. Database Management:**
 - Work with both SQL and NoSQL databases to design and implement efficient data storage solutions.
 - Optimize database queries for improved performance and scalability.
- 3. Cloud Deployment:**
 - Deploy and manage applications on AWS, ensuring scalability, reliability, and security.
 - Utilize Kubernetes for container orchestration and management.
- 4. Code Review and Testing:**
 - Conduct thorough code reviews to maintain code quality and adherence to coding standards.
 - Develop and execute comprehensive unit and integration tests.

Captured is a snapshot of detailed prompt catalogue created for easy reference by recruiters. The same was completed for all 13 stages of recruitment activities.



Prompts created for each stage of recruitment

Sno	Stage	Skill	Gen AI augmentation	Experiment description	Prompt Used	LLM	Output Link
1	Creating & improving JDs	Java Full stack	Build polished JD	Given rough 2-3 lines sketch of JD as received from hiring manager, asked LLM to prepare formal JD	create JD -Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases and runs on AWS	Chat GPT 3.5	Full Stack Engineer Wanted (openai.com)
						Bard	Full Stack Software Engineer (Java/React/AWS) (google.com)
2	Understanding and mapping skill adjacencies	Java Full stack	Finding skill adjacencies	Referring the above PD, JD I have asked for adjacencies skills	help me mapping skill adjacencies for Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases and runs on AWS	Chat GPT 3.5	Tech Skills Map: Java, React, AWS (openai.com)
						Bard	https://g.co/bard/share/54ee220e714a
3	Understanding & creating search string outputs for sourcing	Java Full stack	Creating Boolean string	Referring above JD need to create search string	Creating search string outputs for sourcing for below skills Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases and runs on AWS	Chat GPT 3.5	Java, React, TypeScript, AWS Search (openai.com)
						Bard	https://g.co/bard/share/4968469f74b
4	Preliminary screening questions (technical)	Java Full stack	Creating screening questions	Considering above JD need screening questions	please share screening questions and answers as per the JD Java, React, TypeScript, GraphQL, Kubernetes, SQL, and NoSQL databases and runs on AWS	Chat GPT 3.5	Java, React, TypeScript Screening (openai.com)
						Bard	https://g.co/bard/share/f6e8a4c2ea89

Below are a few snapshots of the Preferred LLMs comparison done on the key recruitment activities that create an impact in hiring.

In assessing the performance of LLMs like Gemini and ChatGPT across the different stages of the recruitment process, notable differences and similarities emerged. In terms of crafting job descriptions (JDs), both Gemini and ChatGPT showcase strong capabilities, garnering a rating of 8 out of 10. However, when it comes to understanding and mapping skill adjacencies, Gemini held a better edge in rating when compared to ChatGPT. In creating search string outputs for sourcing, Gemini excelled with a rating of 8. Gemini also outshined in screening and summarizing profiles & formulating technical screening questions. In terms of domain-specific skills, Gemini maintains a consistent performance across various stages, showcasing its strength in creating JDs and understanding skill adjacencies. ChatGPT, on the other hand, excels in providing market intelligence, delivering accurate and targeted company listings and competitor mapping. Overall, each platform brings its unique strengths to the table, with Gemini excelling in certain aspects of JD creation and technical screening questions, while ChatGPT offers superior performance in Market Intelligence (MI).



Areas of Focus	ChatGPT 3.5			Bard			LLM Preferred
	Total Searches	Attempt	Rating on 10	Total Searches	Attempt	Rating on 10	
Digital Skills							
Creating and improving JDs	13	2	8	13	2	8	Both are same
Understanding and mapping skill adjacencies	7	2	8	7	2	7	ChatGPT
Understanding & creating search string outputs for sourcing	13	2	7	13	2	8	Bard
Screening & summarizing the profiles	7	1	7	6	1	8	Bard
Preliminary screening questions (technical)	13	1	8	13	1	9	Bard

Areas of Focus	ChatGPT 3.5			ChatGPT 4.0			Bard			LLM Preferred
	Total Searches	Attempt	Rating on 10	Total Searches	Attempt	Rating on 10	Total Searches	Attempt	Rating on 10	
Market Intelligence										
Name some Automotive companies list in Coimbatore to find Python, Embedded C skilled resource	5	12	5	1	2	8	5	12	6	ChatGPT-4
Provide the current Small boutique VLSI companies in India	3	6	5	1	2	8	3	6	6	ChatGPT-4
Salary ranges - Telecom, VLSI & Automotive	LLM's response not helpful									
Mapping competitors	6	10	5	3	6	8	6	10	7	ChatGPT-4
Salary ranges - Digital Skills	4	4	4	Not experimented			4	4	5	Bard
Can you give count of Autosar developers in FORD at Chennai locations	LLM's response not helpful									
A short write up about a client	6	6	8	Not experimented			6	6	8	Both are same

Measurable Benefits

Implementing GenAI in each step of the recruitment process could significantly streamline operations and enhanced efficiency of the team members and delivery teams. By integrating GenAI technology, you are essentially augmenting the capabilities of your recruitment processes, allowing for smoother execution and faster turnaround time (TAT). The 13 steps outlined in the TAG design provide a comprehensive framework for integrating GenAI into various facets of recruitment, be it from candidate sourcing to onboarding. With GenAI-driven automation, tasks such as resume screening, candidate matching, and scheduling interviews can be expedited, reducing manual effort, and minimizing human error. Moreover, GenAI can provide valuable insights and predictive analytics, enabling your team to make more informed decisions and optimize resource allocation. By leveraging GenAI throughout the recruitment lifecycle, TAG teams not only enhance the effectiveness of the processes but also empower the team members to focus on higher-value activities, ultimately driving greater organizational success.



Recruiter Tasks – Pre & Post Gen AI Integration

Sl. No	Activities Recruiters Perform	Time per recruiter without LLM	Time per recruiter with LLM	Efficacy of LLM	Current Usage in Hiring**
1	Creating and improving JDs	2-4 days TAT	30 mins to less than 1 day	Green	Yes
2	Understanding and mapping skill adjacencies	1-2 days TAT	5-10 mins	Green	Yes
3	Understanding & creating search string outputs for sourcing	1-2 days TAT	5-10 mins	Yellow	Yes
4	Preliminary screening questions (technical)	2-4 days TAT	less than 1 day	Green	Yes
5	Screening & summarizing the profiles	NA	5 mins	Yellow	Need basis
6	Informing candidates about screening shortlist for specific project opportunity	30 mins per day	30 mins	Yellow	Need basis
7	Scheduling screen shortlisted candidates for specific project opportunity	30 mins per day	30 mins	Yellow	Need basis
8	Candidates update at each stage of process	30 mins per day	30 mins	Yellow	Need basis
9	Documents collection for offer process	10 mins per day	10 mins	Yellow	Need basis
10	Offer status	5-10 mins per day	5-10 mins	Yellow	Need basis
11	Clarifying terms & conditions of offer, policies, benefits etc.	2-3 hours per day	10 mins	Green	Yes
12	Guiding for document filling for BGV & other forms for joining.	2-3 hours per day	10 mins	Green	Yes
13	Onboarding guidelines for New Joiners	2-3 hours per day	10 mins	Green	Yes
14	Market Intelligence	2-4 hours per day	15-20 mins	Green *	Yes

Must Have
Important to Have
Good to Have - Not Mandatory
* Must Have - Feature yet to be explored
** Usage is captured based on this Core team+11 recruiters for this project

• The average time spent by a recruiter on tasks 1 to 5 is typically 5 working days. However, with LLM usage it has reduced the time to approximately 1.5 days.

Cost saving through higher recruiter productivity:

With 25% improvement in turn around time of sourcing stages, the estimated saving for company is \$5 million for faster fullfilent and reduced vendor cum recruitment cost.

Creating and Improving JD- Recruiters regularly engage in creating and refining job descriptions (JDs), a critical step in the hiring process. Leveraging LLMs have proven effective in this aspect, with a reported efficacy. Without LLMs, recruiters typically spend 2-4 days on this task. However, with the usage of LLMs, the average time spent for this activity has significantly decreased to 30 minutes to 1 day, indicating improved efficiency and productivity in JD creation and enhancement.



Understanding and Mapping skill Adjacencies- Recruiters are tasked with understanding and mapping skill adjacencies, a crucial aspect of recruitment activity. Leveraging LLMs have proven effective in this area, with reported efficacy. Without LLMs, recruiters typically spend 1-2 days on this task. However, with the integration of LLMs, the average time spent per day has significantly decreased to 5-10 minutes, showcasing improved efficiency and productivity in understanding and mapping skill adjacencies.

Understanding and creating search string- Recruiters engage in understanding and creating search string outputs for sourcing talent, a critical aspect of the hiring process. Leveraging LLMs have proven effective in this area, with reported efficacy. Without LLMs, recruiters typically spend 1-2 days on this task. However, with the usage of LLMs, the average time spent per day has significantly decreased to 5-10 minutes, showcasing improved efficiency and productivity in understanding and creating search string outputs for sourcing.

Status updates & guidance to candidates-Currently, recruiters spend significant time on tasks like clarifying offer details or guiding candidates through document filling. However, with the integration of LLMs, the average time spent on all these activities has substantially reduced to just 10-30minutes a day. This streamlined approach not only enhances productivity but also ensures a smoother and more responsive hiring process. Furthermore, activities such as scheduling interviews or providing candidates with updates at each stage of the process remain consistent in time spent, regardless of LLM integration, reflecting the need-based nature of these tasks. Overall, leveraging LLMs effectively optimizes recruiters' time allocation, allowing them to focus more on strategic aspects of recruiting while maintaining a high standard of candidate experience.

Market Intelligence- Market intelligence is a critical activity for recruiters at all stages of hiring, providing valuable insights into industry trends and competitor analysis & making informed decision making. With the efficacy of LLMs being acknowledged in this area, recruiters can leverage this tool to enhance the efficiency of market intelligence tasks. Without LLMs, recruiters typically spend 2-4 hours every day gathering and analyzing market data. However, with the integration of LLMs, the average time spent per day has significantly decreased to just 15-30 minutes, showcasing improved efficiency and productivity in conducting market intelligence activities. This streamlined approach enables recruiters to stay informed about market trends and competitor movements more effectively, facilitating better decision-making in TAG strategies.



In addition to recruiters' reliance on job boards for Market Intelligence (MI), there's often a blind spot regarding Tier-2/3 or boutique companies where qualified candidates may be found. However, leveraging GenAI provides invaluable insights into a wide array of companies, enabling recruiters to conduct more effective headhunting and sourcing strategies. By tapping into GenAI, recruiters gain access to a broader pool of potential candidates from diverse company backgrounds, ultimately enhancing the effectiveness of their MI efforts.

Captured below is an example of the effectiveness of GenAI in MI. The prompt given was for Python/Data Engineering skilled resources in small boutique firms. The output came as a surprise to TAG as the list of companies wasn't known to the recruiters. To rule out any hallucination by the LLM, TAG cross verified through various sources the existence of these companies & surprisingly most of them were valid entities, indicating potential targets for sourcing Python candidates from these organizations.

Prompts built iteratively – Example of Market Intelligence

Prompt : Provide current Small boutique Java full stack / Python Data engineering companies in India

Source: ChatGPT-4

Learning : All 15 companies were new findings to TAG.

Validation : To conduct further Market Intelligence on these companies to verify their existence and confirm whether it was a result of LLM hallucination.

- Finding small boutique companies specializing in Java full-stack development in India is a bit challenging, as most listings highlight larger, more established companies. However, for Python data engineering, I found several notable companies:
1. **PythonPros** in Mumbai: Specializes in Python with a focus on frameworks like Flask, Django, and Pyramid. They have expertise in fintech applications and advanced ML algorithms.
 2. **CodeViper Technologies** in Hyderabad: Known for their work in machine learning and data science, particularly in natural language processing and computer vision.
 3. **PythoMind** in Pune: Stands out for strategic insights and robust execution in backend development, data visualization, and API integration.
 4. **ViperWare Solutions** in Chennai: Offers turnkey solutions with expertise in DevOps, cybersecurity, and data management.
 5. **ScriptWiz** in Mumbai: Focuses on business process automation, web development, and mobile app development.
 6. **ByteHarmony** in Bangalore: Known for their work in data analytics, IoT, and user experience design.
 7. **VirtuosoTech** in Kolkata: Focuses on developing Python solutions with an emphasis on sustainability and social responsibility.
 8. **Vortex Innovations** in Hyderabad: Offers AI and machine learning solutions, cloud computing, and e-commerce solutions.
 9. **Quantum Dynamics**: Specializes in scalable Python solutions for startups and SMEs.
 10. **Mindfire Solutions** in Noida: A 20+ years old software development company offering customized technological and digital solutions.
 11. **ValueCoders** in Gurugram: Provides IT outsourcing services worldwide, combining business domain knowledge with the latest technology.
 12. **AdaptNXT Technology Solutions** in Bengaluru: A boutique technology solutions organization simplifying digital transformation for businesses.
 13. **StartxLabs Technologies Private Limited** in Gurugram: Offers digital services in cloud, DevOps, and digital marketing.
 14. **Webconnect Technologies Pvt Ltd** in Delhi: Specializes in making custom software for clients as per their needs and choices.
 15. **Steady Rabbit Technology Pvt Ltd** in Ghaziabad: Known for app development and their innovative platform OneAD.





Overall

In essence, incorporating GenAI into recruitment goes beyond merely embracing new technology; it represents a strategic move to foster innovation and ensure sustained future success. As HCLTech navigates the ever-evolving talent landscape, GenAI has emerged as a transformative force that addresses present challenges and gives an opportunity to position use as pioneers in recruitment excellence.

Adopting GenAI means committing to efficiency, fairness, and putting candidates first. It recognizes that in today's digital age, combining human expertise with GenAI capabilities creates a powerful synergy that drives organizations toward long-term success in the competitive world of recruitment. By embracing GenAI responsibly, organizations redefine recruitment processes and pave the way for a future where innovation, transparency, and adaptability drive recruitment success.

In addition to its significance for Talent Acquisition, the integration of GenAI holds paramount importance for the broader journey with GenAI innovation. This initiative not only enhances the recruitment processes but also serves as a cornerstone in the GenAI journey, propelling the team towards a future where GenAI plays a central role in driving organizational success. By incorporating GenAI into recruitment, the hiring processes are not only streamlined but has also strengthened the advanced Proof of Concept (POC) initiatives undertaken. This strategic move underscores the commitment to harnessing the full potential of GenAI across various facets of the operations. It demonstrates the proactive approach to leveraging cutting-edge technology to stay ahead in the competitive landscape while ensuring that the GenAI endeavors align with the organizational objectives and values. As HCLTech continues to refine and expand the Gen GenAI initiatives, the integration of GenAI into recruitment serves as a testament to the company's commitment to innovation, efficiency, and excellence in all aspects of business.



Challenges & Considerations:

- **Enhancing Market Intelligence with GenAI: Addressing Limitations:**

Notable limitations were encountered while utilizing GenAI for Market Intelligence (MI) purposes. Despite providing comprehensive details about various companies, the platform did not furnish information regarding candidates' current salary or the compensation they should be offered. Additionally, it failed to offer insights into the availability of profiles or resources in specific locations, which could be crucial for recruitment planning. These gaps in data provision present potential loopholes in the functionality of GenAI, hindering its effectiveness in providing holistic MI for recruitment purposes. But it also assures organizations regarding data privacy, ensuring that confidential information remains secure and undisclosed.

- **Data Accuracy & Quality are Important:**

GenAI heavily relies on data, and the quality of this data significantly influences the success of GenAI-driven initiatives. It's crucial to ensure that the data used to train GenAI models is accurate, relevant, and devoid of biases. Regular data hygiene practices, such as data cleansing and validation, are essential to uphold data integrity. In essence, GenAI's efficacy centers on the availability of high-quality data. Therefore, it's imperative to ensure that the data used to train GenAI is accurate, relevant, and unbiased, and to maintain its accuracy through consistent data cleansing and monitoring processes.

- **Continuous Learning and Enhancement is required:**

GenAI must continuously evolve and adapt to changes in hiring practices, candidate preferences, and business requirements. It's crucial for organizations to select GenAI systems capable of self-updating with new information and user feedback. This ensures that GenAI remains effective and relevant over time, continuously improving its capabilities to meet evolving needs. In summary, GenAI in recruitment should remain agile by consistently learning and adjusting to changing trends and requirements. Organizations should invest in GenAI systems that can enhance themselves over time with fresh data and feedback, ensuring their ongoing effectiveness and relevance.



- **Human Oversight is essential:**

GenAI should serve as an aid to human decision-making, rather than serving as a complete replacement. It's critical for individuals to monitor GenAI to ensure adherence to organizational values, ethics, and regulations. Recruiters and hiring managers should retain the ability to intervene and modify GenAI suggestions, particularly when they have substantial implications on candidates. GenAI should complement human decision-making, not replace it entirely. Control by humans is crucial to ensure GenAI aligns with organizational principles and regulations, with recruiters and hiring managers empowered to intervene when necessary.

- **Transparency of GenAI Usage is a must:**

Making GenAI-driven initiatives transparent and easy to understand fosters trust and accountability. Organizations should provide clear explanations of how GenAI operates, the data it utilizes, and the decision-making process. This transparency instills confidence and trust among candidates, recruiters, and other stakeholders. Moreover, ethical considerations surrounding GenAI usage must be addressed comprehensively. This includes ensuring data privacy, obtaining informed consent when necessary, implementing safeguards against algorithmic bias, and providing ethical awareness training for stakeholders involved in GenAI initiatives. By prioritizing transparency and ethical practices, organizations can enhance trust and accountability in their GenAI-driven processes.

The outlook and next steps for enhancing GenAI in Recruitment appear very promising at HCLTech. Here are several key trends and developments expected to shape the future of GenAI in TA for the company:

Adoption of GenAI within the Talent Acquisition Group (TAG) in HCL is currently underway, marking a significant step towards enhancing recruitment efficiency and effectiveness. To facilitate this transition, a pilot group has been established, serving as a testing ground for exploring the capabilities and benefits of GenAI. Moreover, efforts are being made to educate and encourage adoption across various TAG groups within HCLTech. HCL Leadership has recognized the value add brought in by GenAI in streamlining recruitment processes and improving outcomes, leading to increased investment in its implementation across the TAG function. This strategic move underscores HCLTech's commitment to innovation



and leveraging cutting-edge technologies to drive excellence in TAG and ultimately achieve organizational objectives.

Adoption of advanced analytics and machine learning techniques for talent forecasting & work force planning, improve candidate matching and selection. Also, exploration of GenAI driven solutions for Diversity & Inclusion led initiatives & minimize bias in hiring to ensure fair & ethical decision-making process.

Implementation of personalized candidate experiences leveraging GenAI capabilities. We are currently using a BOT to address candidates' queries post offer release, and this has significantly reduced the human intervention leading to recruiter efforts being focused on core recruitment activities.

The company is also looking at the integration of GenAI with existing HR systems and tools for seamless recruitment operations. This includes collaboration with external partners and vendors to leverage cutting-edge GenAI technologies.

Continuous training and upskilling of recruitment professionals to effectively utilize GenAI tools and insights for efficient hiring. HCLTech has already designed learning programs & courses in GenAI for the recruitment fraternity to capitalize.

HCLTech is committed to investing in research and development to stay ahead of emerging trends and technologies in GenAI recruitment solutions. HCLTech is prepared to spearhead a transformative journey, leveraging cutting-edge technology and advanced analytics to unlock unprecedented insights, streamline processes, and elevate the entire recruitment experience for candidates, thereby empowering GenAI as a trusted companion for recruiters.

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