UX design meets GenAI: Emerging practices from job postings in Singapore

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Generative AI (GenAI) is driving transformations in creative fields, including User Experience (UX) design. To understand changing employers' expectations and emerging design practices in this domain, job postings offer valuable data sources in design research. This study extracted job postings from LinkedIn in Singapore and analyzed a selected sample to examine how GenAI is positioned within UX roles. Using inductive thematic analysis, findings reveal latent themes representing ways GenAI is being integrated into UX practice. The discussion considers how these trends might reshape design roles, professional autonomy, and organizational dynamics, draws implications for design education, and situates the findings within critical perspectives on technology. The main contributions include early insights into the impact of GenAI on UX practice and a replicable methodological approach for analyzing job postings. These findings lay the groundwork for further comparative and longitudinal research exploring regional differences and the evolving relationship between GenAI and UX design.

Keywords: product design, artificial intelligence, job ads, design education

1. Introduction

Technology is often enveloped in narratives that swing between salvationist and apocalyptic registers, two complementary expressions of an ideological operation that works to conceal the political, economic, and social interests that benefit from its development (Vieira Pinto, 2005). More recently, critical perspectives on digital technologies have emphasized that artificial intelligence should not be understood as an autonomous or immaterial phenomenon, but as a sociotechnical system rooted in data-center infrastructures, exploitative labor conditions, and the large-scale collection of data without consent, and one that carries environmental costs, encodes social biases, and reproduces unequal geopolitical relations (Crawford, 2021; Faustino & Lippold, 2023).

The structural dimensions outlined above are central to any critical account of AI—and yet they coexist with excitement about what the technology makes possible (Weisz et al., 2024). Nielsen (2023) captures something of this ambivalence in identifying GenAI as the first new computing paradigm in sixty years: a framing that is as much about disruption as it is about opportunity. It is against this backdrop of simultaneous awe and apprehension that examining how AI is translated into professional contexts becomes particularly important.

As GenAI impacts the cognitive and creative dimensions of human labor (Frey & Osborne, 2023), debates about how this technology is reshaping creative industries, including user experience (UX) and product design, are increasingly urgent. Understanding how design roles might evolve in an AI-infused professional landscape—including emerging skill requirements and evolving professional expectations—is essential for anticipating workforce needs and equipping future designers.

In this context, Napierala and Kvetan (2023) argue that job postings can provide a real-time view of evolving hiring discourse and employer expectations. Job postings are highlighted here as pieces of strategic communication, easily accessible data sources (da Cunha, 2009; Schlee & Harich, 2010; Kim & Angnakoon, 2016), and a limited but valuable window into design practice.

This paper constitutes the first case of a broader research program (Honorato et al., 2025) aimed at examining how the relationship between GenAI and UX design skill sets evolves across different geographical locations, and how cultural, economic, and policy conditions might influence this process. Additionally, this study proposes a structured protocol for processing and analyzing job posting data, contributing to design research methods through greater transparency and reproducibility.

Singapore serves as a relevant geography for this first case study, given its national commitment to the Design 2025 Masterplan (DesignSingapore Council, 2025) and the National AI Strategy, first launched in 2019 and updated as NAIS 2.0 in 2023 (Organisation for Economic Co-operation and Development [OECD], 2025; Smart Nation Singapore, 2023). By integrating both design and AI into policy, education, and industry, Singapore offers a fertile ground for examining how hiring discourses are shaping professional expectations beyond Eurocentric and Western design canons, while also providing insights that may resonate with global trends.

2. Methodology

In this section, the process encompassing planning, data extraction, data cleaning, and data selection is presented, along with ethical considerations.

2.1. Planning

In the early stages of this study, the researchers discussed the questions, objectives, geographical boundaries, data sources, study variables, search terms, and selection criteria. The planning contributed to defining the guiding thread of the investigation and establishing clear boundaries regarding what the study encompasses—and what it does not. Several iterations were required as the study progressed and the output of this process is presented in Table 1.

Table 1. Research plan for this study with UX-related job postings from Singapore

1. Research questions (RQ)	**RQ1 What purposes or goals is GenAI expected to serve within UX design roles?** **RQ2 To what extent is GenAI proficiency framed as essential rather than merely advantageous in UX job postings?** **RQ3 How is GenAI positioned within UX practice—as a strategic long-term enabler or an operational short-term tool?** **RQ4 How do requisites and uses of GenAI differ across UX professionals with varying levels of experience or seniority?**
2. Objectives	(A) Analyze the presence of GenAI in UX job postings to identify emerging themes and early insights into its influence on UX roles. (B) Contribute a protocol for processing and analyzing job postings data to enable further longitudinal and comparative design research.
3. Geography & timeframe	Singapore. August to October 2025
4. Type of study	[X] Current open roles [ ] Historical data
5. Study variables	In scope: role title, job description, requisites, seniority. Out of scope: salary, company name, work arrangement (hybrid, remote, etc.).
6. Data sources	Linkedin
7. Search terms	UX designer, UI designer, product designer, UX researcher

From the initial question “How is GenAI currently represented in UX-related job postings?”, a set of research questions were defined to be addressed in this study (Item 1). Among these, RQ1: “What purposes or goals is GenAI expected to serve within UX design roles?”, serves as the primary focus for guiding the identification of themes, while the other questions are complementary. Item 2 presents the dual objectives of this study: (A) to identify latent themes at the intersection of UX roles and GenAI and (B) to contribute a replicable protocol for design studies with job postings.

The choice of Singapore as the geographical focus, outlined in Item 3, was grounded in its strong integration of Design and GenAI into national policy, education, and industry. The researchers also explored job postings in New Zealand, which returned few results; Australia, which showed more promising results; and Portugal, where postings appeared in multiple languages. Ultimately, Singapore was selected for its strategic relevance and available data.

Item 4 defines whether the study investigates current open roles or historical data, drawing on Harper (2012), who emphasizes the methodological implications of each approach. Considering the recency of GenAI and the study’s focus on contemporary professional expectations, analyzing current open roles was deemed more appropriate. In Item 5, the study variables were defined based on their relevance to the research questions, including role title, job description, requisites, and seniority. Variables such as salary, company name, and work arrangement were excluded.

For Item 6, postings were collected exclusively from LinkedIn, which has become a mainstream platform for job advertisements (Li et al., 2020). Item 7 lists the search terms used: *UX Designer, UI Designer, Product Designer,* and *UX Researcher.* Although distinctions exist between UX design and research roles (Getto et al., 2023), these boundaries can vary across time and regions. Including both ensures a broader understanding of how GenAI is represented across UX. Terms such

as *Digital product designer*, *Interface Designer,* and *Interaction Designer* were explored but ultimately excluded.

2.2. Data extraction

LinkedIn does not provide a built-in feature for large-scale data extraction and its user agreement (LinkedIn, n.d.) discourages the use of *crawlers* and other data-scraping methods. As the number of search results was manageable, and despite the risk of minor inconsistencies, the researchers opted for manual extraction. Enabling automated extraction methods is a priority for future studies.

Aiming for a more diverse sample of current open roles, the job posting extraction process was carried out in three batches. Between batches 1 and 2, there was a one-week interval; however, the researchers observed a high frequency of duplicate job postings. To address this, the interval between batches 2 and 3 was extended to five weeks, resulting in a greater number of unique search results.

Table 2. UX-related job postings collected from Linkedin in Singapore - August to October 2025

Search term	**Timestamps (Singapore time Y-M-D)**	**N of job postings collected**		
		Batch 1	**Batch 2**	**Batch 3**
UX designer	2025-08-17 23:29; 2025-08-25 17:08; 2025-10-02 17:06;	127	133	154
Product Designer	2025-08-18 04:35; 2025-08-25 20:28; 2025-10-02 22:04;	99	125	96
UI designer	2025-08-17 23:37; 2025-08-25 20:00; 2025-10-02 19:13;	29	28	39
UX researcher	2025-08-18 04:56; 2025-08-25 20:23; 2025-10-02 22:54	16	14	13
			Total collected	873

Table 2 presents a summary of the collected postings. The overall data collection period lasted six weeks (August to October 2025). Among the search terms, *UX Designer* generated the highest number of results, 414 postings, followed by *Product Designer* with 320. *UI Designer* and *UX Researcher* yielded fewer results, with 96 and 43 postings, respectively. In total, 873 job postings were collected.

It is worth noting that searches for *Product Designer* produced a substantial number of job postings outside the intended context (e.g., airline pilot, software engineer). A possible explanation is that both *product* and *design* are polysemous words, widely used across different professional domains.

2.3. Data processing

After extracting 873 job postings, the dataset contained a significant number of duplicates. This occurred for several reasons: some postings remained open between extraction batches; the same postings appeared under different search terms (e.g., *Product Designer* and *UX Designer*); companies reposted the same position to gain visibility; and in some cases, both the company and recruitment agencies advertised the same role.

As job postings lack a shared structure and vary greatly in length, processing the dataset posed several challenges. While most follow a general narrative—introducing the company, describing the role, and outlining required qualifications—the order and section titles differ (e.g., job description headlines may appear as *What You'll Do, Your Work* or *What Your Workday Looks Like*). Some postings also include additional sections such as company perks or preferred qualifications. Reflecting this heterogeneity, posting lengths in this dataset ranged from 844 to 11.103 characters, with an average of 3.998. To prepare for analysis, the researchers developed a four-step data cleaning process:

1. Importing the 873 listings into Google Colab;
2. Splitting text after About the job, a key structural marker across LinkedIn postings;
3. Applying the edit distance (Levenshtein) to detect and remove duplicates;
4. Filtering for listings mentioning AI, in line with the study's objectives.

In step 1, the spreadsheet with 873 job postings was saved in Google Drive and imported to a Google Colab notebook using *drive.mount*, then loaded into a DataFrame using the *pandas* library from Python. Direct import attempts failed due to large stack sizes, making Drive storage a more reliable solution. In Step 2, the postings were found to include metadata that complicated deduplication, such as varying dates, click counts, or LinkedIn advertisements.

To standardize the data, several job postings were examined and the text *About the Job* was identified as a consistent marker across all Linkedin listings. Splitting the texts immediately after this marker produced clean versions of each posting. For Step 3, deduplication was performed using *Python*'s *fuzzywuzzy* library with the *fuzz.ratio* function (*Levenshtein edit distance*) to identify duplicated job postings before manual inspection. For clusters with similarity above 90%, only the longest listing was retained, assuming it contained the most complete information.

The optimal threshold for similarity checks depends on dataset characteristics (Andrzejewski et al., 2024), thresholds of 80%, 85%, 90%, and 95% were also tested, with 90% providing the best balance between removing duplicates and preserving similar but distinct postings in this sample. This step reduced the dataset from 873 to 360 unique postings, though an outlier remained where identical content had rearranged sections (Levenshtein algorithm reads sequentially), which was manually identified later during data selection.

Step 4 focused on filtering listings relevant to UX roles intersecting with GenAI. Listings containing *AI* or *artificial intelligence* were filtered using regular expressions, which were refined iteratively to avoid false matches within other words (e.g., sustAIn, chAIn) while allowing valid terms such as *AI-infused*. This step reduced 360 unique postings to 126 aligned with the study goals.

2.4. Data selection

Online searches for job postings may return results outside the intended scope. A data selection process was conducted as quality assurance to exclude irrelevant listings from the final dataset. Two inclusion criteria were considered:

(1) The role must be related to the Design discipline (e.g., excluding AI software engineer or freelance journalist);

(2) It must focus on UX and design for interactive systems such as apps or web platforms (e.g., excluding product designer for furniture pieces, 3D animator, or branding designer);

For this stage, the first author invited a researcher from the same institution—but unrelated to the study—to act as a second evaluator. Both independently reviewed the 126 job postings, noting whether each met or violated criteria 1 or 2. The evaluation was conducted blindly, without access to one another's ratings. Reviewers agreed on 115 out of 126 postings (91%), with a Cohen's Kappa coefficient (k) of 0.82, indicating strong inter-rater reliability.

Disagreements were discussed among authors until a consensus was reached on each case, resulting in a final dataset of 76 job postings for analysis. A reflection for future work derived from this stage is that involving a third impartial evaluator could further enhance reliability by mediating disagreements and minimizing potential bias due to persuasion or power dynamics.

2.5. Ethical considerations

Company names and recruiter identities were removed during data processing, and any remaining names embedded in the text were manually removed during analysis. Although job postings are publicly available, these steps ensured that only relevant information was used, preserving anonymity and minimizing potential analysis bias.

3. Inductive thematic analysis

Data analysis followed Braun and Clarke's (2006) six steps for thematic analysis. An inductive approach enabled themes to emerge directly from the data, rather than from predefined analytical categories or researcher assumptions.

For Step 1, *Familiarizing yourself with your data*, the researchers read the postings multiple times during planning, extracting, and cleaning stages. Throughout data processing, they repeatedly reviewed the texts to verify if the methods for deduplication and filtering were functioning as intended. This iterative engagement fostered an in-depth and nuanced familiarisation with the data.

In Step 2, *Generating initial codes*, 76 selected job postings were imported to NVivo 15 and compiled into a single file. The first author, acting as the primary coder, systematically reviewed the material, labeling relevant excerpts to generate initial codes.

Table 3. Initial codes at the intersection of GenAI and UX roles.

Excerpt from job postings	**Related initial codes**
"Lead UX Design for AI-powered products from concept to delivery, ensuring a consistent and intuitive experience."	Design for AI-infused experiences

"Mentor designers to become AI-native practitioners while maintaining brand consistency through systematic governance."	Disseminate AI+Design practices
"Experience using GenAI tools (e.g. Midjourney, Firefly, DALL·E) to enhance design output or ideation."	Enhance design output; Enhance design ideation; Use of Gen AI to improve design workflows; AI design tooling
"Use a variety of design methods, code and AI tooling, to rapidly turn solution concepts into interactive experiences, to validate ideas and technical feasibility"	Rapidly prototype artifacts; AI design tooling
"Co-create and document an innovative UX workflow that integrates AI for ideation, user research synthesis, and creative problem-solving."	Use of Gen AI to improve design workflows; Enhance design ideation;

Each initial code was derived from excerpts of the 76 job postings and excerpts could be connected to multiple codes. For example, "Co-create and document an innovative UX workflow that integrates AI for ideation, user research synthesis, and creative problem-solving" was coded under *Use of Gen AI to improve design workflow* and *Enhance design ideation*. Table 3 illustrates how the data were labeled, providing the foundation for identifying broader themes in the subsequent phases of analysis.

In Step 3, *Searching for themes*, the researchers iteratively clustered codes capturing similar concepts at the intersection of UX and GenAI. This process aimed to move from granular observations to broader, meaningful categories that reflected recurring practices, skills, and challenges across the dataset. These preliminary themes then informed the subsequent refinement stages of analysis.

Building on this foundation, Step 4, *Reviewing themes*, was conducted iteratively to assess the coherence between excerpts, codes, and themes. This process involved close collaboration among researchers and several rounds of refinement, including renaming codes and themes to improve conceptual precision. As a result, two initial overarching categories—*GenAI in the design process* and *Design for GenAI experiences*—were expanded into four refined themes.

Table 4. Codebook with themes, related codes, and count of references.

Theme	Associated codes	N
1. GenAI supporting design workflows	Accelerate the development of new products and services; Automation of organizational processes; Enhance design ideation; Scale research through AI-assisted processes; Train AI models for user research; Use GenAI for data analysis activities; Use of GenAI to improve design workflows; Enhance design output; Generate AI-enhanced presentation; Rapidly prototype artifacts;	34
2. Designing GenAI-infused experiences	AI-infused experiences serving user experience; Build multimodal experiences; Design for AI-infused experiences;	35
3. Leading GenAI adoption in design	Disseminate AI+Design practices; Establish guidelines for responsible AI; Guide product direction l vision; Implement design patterns for AI-infused experiences; Influence leadership decisions; Setting up guidelines for AI-infused experiences; Shape company standards about AI;	25
4. GenAI in the organizational narrative	AI-first approach; AI-native design toolbox; AI-powered & client centric org; Market leading capabilities in AI; New era of AI; Not using AI feels limiting	26

Based on the analysis of the selected job postings, the themes in Table 4 capture modes of GenAI integration in UX roles, ranging from its operational use in design workflows to its influence on organizational strategy. The next sections address Steps 5 and 6, *defining and naming themes* and *producing the report*, by elaborating on these themes and responding to the research questions.

4. Results

The thematic analysis of 76 UX job postings in Singapore (August to October 2025) referencing GenAI revealed latent themes reflecting the integration of GenAI in UX hiring discourse and its potential implications for design practice. This section outlines each theme, briefly defining its scope

and discussing potential effects for the evolving landscape of UX work.

4.1. Theme 1: GenAI supporting design workflows

This theme captures how GenAI is being integrated into design workflows to accelerate or automate everyday tasks related to writing, ideation, research, prototyping, and more. It reflects the use of GenAI as a creative and cognitive support, leveraging AI-infused design tools (e.g., FigmaAI, Firefly, Miro AI) and generative models (e.g., ChatGPT, Cursor, Midjourney) across the design process.

> Use AI tools like ChatGPT to accelerate UX writing, content generation, ideation, and research. (Reference 33)
>
> Proven experience implementing GenAI tools into a professional design pipeline, with a clear understanding of prompt engineering, quality control, and brand governance. (Reference 2)

The excerpts above reflect an emerging demand for professionals who demonstrate experience or curiosity in adopting GenAI in their design processes.

> Co-create and document an innovative UX workflow that integrates AI for ideation, user research synthesis, and creative problem-solving. (Reference 10)

Reference 10 suggests a collective effort to document and define structured and shared AI-assisted design workflows. However, initial evidence from the job postings indicates that, while companies are actively investing in GenAI design tools and models and promoting their use, integration practices remain largely experimental—often driven by individual or project-specific basis.

Within Theme 1, AI-assisted prototyping emerges as a key area, involving the use of GenAI tools to co-create visual mockups and interactive prototypes from natural language prompts, enabling the realization of ideas that might otherwise require developer input and additional time.

> The AI Prototyper will rapidly design and build low-fidelity prototypes to explore new ideas at the intersection of UX, technology, and GenAI. These prototypes will help guide product direction and influence leadership decisions. (Reference 1)

According to the job postings, prototyping with GenAI can contribute to strategically shaping product vision and guide leadership decisions by facilitating communication, testing, and aligning stakeholders around tangible artifacts. The *AI Prototyper* role in Reference 1 reflects an adaptation of traditional prototyping to AI-driven contexts. As a potential implication, this theme may indicate a cultural shift toward a build-first mindset, as GenAI enables early and rapid product visualization.

> Use a variety of design methods, code and AI tooling, to rapidly turn solution concepts into interactive experiences, to validate ideas and technical feasibility. (Reference 23)

In contrast, initial evidence from Singapore job postings suggests that the impact of GenAI-assisted prototyping is often limited to team alignment and early-stage feasibility checks rather than final product rollouts. Consistent with this, Wang and Brown (2025) note that AI-generated user interfaces may look finished but often lack contextual nuance, making UX expertise essential for final designs tailored to the intended audience.

4.2. Theme 2: Designing GenAI-infused experiences

The second theme emphasizes a growing focus on designing experiences for products and services with integrated GenAI capabilities, shaping how users interact with GenAI and how transparency, control, and trust are mediated through the user interface.

> Transform existing journeys and processes by designing for AI and Agentic AI powered Experiences. (Reference 8)

> You and your team are responsible to deliver meaningful business value by caring about our users, iterating relentlessly and implementing AI powered journeys. (Reference 68)

The excerpts above underscore design for AI-powered or agentic experiences, where GenAI becomes an integral part of everyday products and services. They highlight emerging employers' expectations for designers to align GenAI capabilities, organizational goals, and contextual user needs, emphasizing continuous iteration and the transformation of existing journeys through AI-infused features.

> Experience designing for voice UX, multimodal interfaces, or personalization engines. (Reference 32)
>
> Bonus points if you have experience with: Conversational AI or chatbot design; Multimodal interaction design [...]. (Reference 60)

One particular aspect of this theme, highlighted in excerpts 32 and 60, is the demand for expertise in designing multimodal interfaces that integrate audio, voice, text, and image-based interactions. As GenAI expands the range of input and output modalities, UX designers are increasingly expected to create cohesive experiences across these channels.

4.3. Theme 3: Leading GenAI adoption in design

The third theme emphasizes scaling GenAI adoption across design teams, whether by supporting workflows (Theme 1) or by integrating GenAI into user experiences (Theme 2). Job postings indicate that organizations are increasingly investing in developing context-sensitive design patterns, standards, guidelines, and governance aimed at supporting the compliant, consistent, and effective use of GenAI.

This theme encompasses fostering collaboration for design *with* and *for* GenAI, aligning design strategy with stakeholders, and embedding AI practices into organizational routines. The analyzed sample reveals a growing demand for senior professionals—often in managerial roles—to act as

subject matter leaders at the intersection of UX and GenAI, navigating technological advances, managing AI design tool stacks, and leading the adoption of GenAI across design teams.

> Mentor designers to become AI-native practitioners while maintaining brand consistency through systematic governance. (Reference 2)
>
> You introduce and develop frameworks specific to AI including conversational UX, agent based design, co-pilot interactions, intelligent automation, and explainability. (Reference 12)

Excerpts from References 2 and 12 highlight Theme 3's focus on building situated organizational capabilities and governance for AI integration in design practice. They reveal a dual emphasis: (1) upskilling designers to become AI-native practitioners, and (2) establishing frameworks and guidelines across teams. Together, these efforts aim to enable scalable adoption of AI-assisted design practices.

4.4. Theme 4: GenAI in the organizational narrative

This theme captures how GenAI appears in postings not only in role descriptions or job requirements but also within broader and transdisciplinary corporate discourse, often in introductory sections. Terms such as *AI-first approach*, *AI-native design toolbox*, and *market-leading capabilities in AI* indicate how organizations often leverage GenAI as part of the strategic narrative to appear technologically advanced and forward-thinking. These mentions often position AI as a core organizational value and market differentiator, shaping both company identity and recruitment messaging.

> While other companies are still debating whether to approve Figma AI licenses, we are rebuilding our entire design engine around it. You will architect strategy in a truly AI-first environment, implementing everything from Adobe Firefly to LLM-powered personalization—a competitive advantage few Design Managers in the world will have. (Reference 2)

> We move fast, design for scale, and use the best tools to work smart. If you're excited to help millions of users make better financial choices—and you believe AI is a design superpower—you'll thrive here. (Reference 33)

Organizations use assertive, even provocative language to define the kind of designers they seek—and, implicitly, those who fall outside that vision. In such job postings, the "ideal candidate" is portrayed as proficient in GenAI and aligned with an AI-driven culture. This discourse conveys competitiveness and urgency, positioning AI adoption as both a symbol of innovation and a gatekeeping criterion for inclusion in contemporary design teams.

> Do you want to play a key role in transforming our firm into an AI powered and client centric organization? (Reference 8)
>
> From quantum applications and artificial intelligence to cybersecurity and 6G innovation, our solutions empower critical decisions rooted in human intelligence. (Reference 7)

In contrast with the *AI-first* worldview, some organizations adopt a moderated stance balancing technological innovation with human values. References 8 and 7 highlight collaboration between human creativity and AI, improved decision-making, and alignment with user-centric goals. Here, GenAI is presented as augmenting productivity, creativity, and judgment rather than replacing humans. This narrative framing may aim to protect company reputation amid AI-related issues, signaling responsibility and moderation.

> By reimagining the way we interact with information, we're merging human creativity with the breakthrough capabilities of AI. Our renewed vision and mission drive us to create the best medium for human and AI collaboration, empowering users to explore new dimensions of productivity, creativity, and learning. (Reference 43)

> It delivers end-to-end services and solutions leveraging strengths from strategy and design to engineering, all fueled by its market leading capabilities in AI, generative AI, cloud and data, combined with its deep industry expertise and partner ecosystem. (Reference 73)

In some postings, GenAI appears in the company's hiring narrative (References 43 and 73) but is absent from job requirements. Preliminary evidence suggests it is not yet essential for these UX roles, adoption is still in its early stages, or strategic priorities may diverge from current hiring needs.

4.5 Interconnections between the themes

The four themes identified in the analysis illustrate different modes of GenAI integration in UX design practice and are neither linear nor mutually exclusive. Themes 1 and 2 reflect bottom-up approaches, showing how AI supports workflows, prototyping, and enables AI-infused products. They reveal employers' expectations for designers to engage with GenAI, leveraging its capabilities to enhance agility, creativity, and efficiency.

Often associated with managerial roles, Theme 3 represents an intermediate, tactical layer, bridging technology with organizational aspirations and sociocultural nuances. It focuses on translating GenAI capabilities into organization-specific contexts, defining integration modes of GenAI in design practices, upskilling designers, and taking leadership in GenAI adoption.

Finally, Theme 4 captures the broad organizational narrative, encompassing the other themes by shaping company identity and discourse beyond the design discipline. It reflects AI's integration into strategy and aspirational culture. Together, the four themes reveal a layered ecosystem in which UX design and GenAI co-evolve.

5 Discussion

This study examined how GenAI is positioned within UX design job postings on LinkedIn in Singapore (August to October 2025), focusing on how skill expectations, professional roles, and organizational narratives are constructed through hiring discourse. The initial findings suggest that GenAI already influences how design work is defined, organized, and valued within organizations. This section returns to the research questions and then develops their implications for design education.

RQ1 asked **what purposes GenAI is expected to serve within UX design roles**. The selected job postings position GenAI mainly as support for design workflows, particularly ideation, synthesis, and prototyping (Theme 1); as an enabler of GenAI-infused and multimodal experiences that combine audio, voice, text, and image (Theme 2); and as an object of strategic leadership within design practice (Theme 3), which builds on the two preceding patterns. Its presence in early design stages points to a change in how exploration happens, with interactive prototypes expected early and often.

This change extends to how teams coordinate. Alignment increasingly forms around visual artifacts rather than textual documentation, while ideation and synthesis become partly mediated by generative systems that shape what can be quickly produced, iterated, and treated as feasible. In this sense, GenAI's influence reaches into how design thinking and design doing are enacted.

Cutting across these uses, hiring discourse and broader organizational narratives (Theme 4) frames GenAI mainly through acceleration. Expressions such as ‘gaining speed’, ‘shortening the product development cycle’, and ‘delivering faster’ are common occurrences in the postings. This emphasis may reflect an orientation towards short-term initiatives, risking a reduced space for critical reflection and for ethical consideration of the systems being built.

RQ2 addressed **to what extent GenAI proficiency is framed as essential rather than**

advantageous, and RQ4 complements this by asking **how requisites differ across levels of seniority**. GenAI skills are mostly framed as advantageous or bonus rather than strictly required. The limited prevalence of mentions of AI in the dataset points in the same direction: of 360 deduplicated Singapore postings, only 126 referenced AI at all, before manual selection reduced the final sample to 76. Taken together, these suggest early-stage adoption and uneven levels of GenAI maturity across organizations.

Even so, expectations for GenAI in UX design do change according to seniority. Junior roles ask for curiosity and personal interest, mid-level roles request demonstrable hands-on use within design workflows, and senior roles call for leadership, governance, and the ability to consolidate shared AI-design practices in teams. This gradation suggests that AI-related requirements are entering UX expertise along a familiar hierarchical pattern.

Across all levels, adaptability and self-starter attitude are valued by employers, suggesting that individual initiative still plays a central role in how organizations are adopting GenAI. In leadership roles, GenAI also becomes part of organizational positioning and talent attraction. This is most visible in foundational hires (e.g., "First AI Product Design Manager"), where postings aim to attract candidates who will be responsible for defining how AI-design practices take shape (Theme 3). Some are even explicit in framing the role as an opportunity to be well placed at a time of change, offering early access to AI tools and practices.

For RQ3: **How is GenAI positioned within UX practice—as a strategic long-term enabler or an operational short-term tool?** GenAI is positioned both at operational and strategic levels. At the operational level, it supports everyday design workflows (Theme 1) or enables GenAI-infused interactions (Theme 2). At an intermediary and tactical level tied to leadership positions, it is embedded in AI frameworks, guidelines, governance, and efforts to scale adoption across teams

(Theme 3).

Encompassing these, and as part of the broader organisational strategy and narrative (Theme 4), GenAI appears as a marker of identity and a criterion of belonging, where the "ideal candidate" is described through alignment with an AI-native culture. In this framing, GenAI can turn into a gatekeeping mechanism, influencing not only what designers do, but who is recognised as a designer in an AI-infused professional landscape.

There is an apparent contradiction here with RQ2. While GenAI skills were mostly framed as advantageous or a bonus rather than required, organisations increasingly lean on a narrative of being AI-first or AI-empowered, taking on an AI culture as a core value. So, although AI-related skills are currently listed as optional job requirements, alignment with this culture seems fundamental. Just as organisations boast about AI-infused products and strategies, a similar tacit acceptance is expected from the designers who want to join them.

5.1. Implications for design education

Drawing on the three layers Murray-Rust et al. (2024) use to describe how students grasp AI, (1) *interactional affordances*, (2) *relationality*, and (3) *wider societal implications*, the selected UX job postings sit mainly at the first. Hiring discourse emphasises technical competency with AI tools and frames GenAI through acceleration, while underspecifying critical engagement with AI relationality and with the broader societal implications these systems carry. Seen this way, design education can contribute not only by catching up with industry change, but by actively shaping designers who can contribute to more desirable and collective futures.

The implications proposed here aim to contribute to the discussion on integrating GenAI into design curricula. Five directions are proposed: *Explainable process over opaque results*; *Design with*

GenAI as a supported practice; Tool fluidity over tool specialization; Design for GenAI-infused experiences; and *Critical engagement beyond guidelines*.

Explainable process over opaque results. When design is conceived under pressure to move fast, generative systems offer a tempting shortcut, rapidly producing outputs that look like finished designs even when they miss contextual nuance (Wang & Brown, 2025). Because these shortcuts can also leave designers feeling they have lost ownership, keeping the process explainable matters more than accepting visually polished but opaque outputs.

This orientation is consistent with long-standing calls to ground design education in methodological and ethical rigour (Findeli, 2001). In the classroom, educators can prompt students to add a section to every project or presentation documenting how AI was used and why. Cultivating this accountability keeps designers answerable for the work. The same ability to make a process explicit underlies an expectation visible in the senior postings analysed here: the ability to define and sustain AI-design practices that are shared across teams.

Design with GenAI as a supported practice. The use of GenAI in the design process should not be treated as a classroom taboo, met through prohibition or silence. Educators can contribute to demystify AI, presenting it as a resource students engage with through practical experience and a pragmatic sense of its possibilities and limits. Students can then use generative systems for both divergent exploration and convergent evaluation, so that AI becomes part of making and thinking in design rather than a shortcut to faster outputs. This builds on pedagogies pairing prompting and iteration with creative experimentation (Smith-Harvey, 2025; Doumpioti & Huang, 2024) and on accounts of GenAI shifting from tool to collaborator (Huang & Liu, 2025).

Tool fluidity over tool specialization. The analysed postings reference a wide and varied set of AI tools, from design-specific uses such as Figma AI, Firefly, and Miro AI to the generative models such as ChatGPT, Cursor, and Claude, with no clear consolidation around a few dominant systems. In this changing tooling landscape, students benefit less from deep proficiency in a single tool than from the ability to experiment, compare options, and seek out new possibilities on their own, a mental model for navigating change. Curricula that fix no specific technology and adopt co-learning between students and educators support this stance (Smith-Harvey, 2025).

Designers can feel perpetually behind as tools change faster than anyone can master them. Education can address this directly, building the confidence that comes from a habit of experimentation rather than from specialization in one system. Framed this way, cultivating adaptability and self-starter initiative becomes a stable professional stance.

Design for GenAI-infused experiences. UX education should explore new interactional affordances enabled by GenAI, including conversational, multilingual, and multimodal design across text, image, audio, and video. This treats AI as a design material rather than a tool to support the design process (Van Turnhout et al., 2024). Because outputs are dynamic and generative (Weisz et al., 2024), designers shape how a system behaves over time, a demand that calls for the interactional and relational competencies described by Murray-Rust et al. (2024) and aligns with the design-for-AI expectations seen in senior postings.

To build this competency, educators can encourage students to imagine and experiment with designing GenAI-infused artefacts across familiar and new domains, examining both the potential benefits and harms. This draws on reflective and experiential learning pedagogies, where students learn through doing and then critically analyse their actions (Murray-Rust et al., 2024; Smith-Harvey, 2025).

Critical engagement beyond guidelines. Responsible AI guidelines such as the *People + AI Guidebook* (Google People + AI Research [PAIR], 2019) and the design principles for generative AI applications proposed by Weisz et al. (2024) offer valuable support for design practice. Alongside them, it is important to help students develop their own critical and ethical positioning, grounded on a constant assessment of the conditions under which each project is carried out. Pedagogies that make privacy, consent, autonomy, and agency tangible (Murray-Rust et al., 2024), and resources such as ethical positioning statements used in assessment (Smith-Harvey, 2025), give this reflection a concrete form.

It means treating GenAI as a sociotechnical phenomenon rooted in political, ideological, and economic interests rather than a neutral instrument, in line with readings of technology as historically and socially produced (Vieira Pinto, 2005) and the hacker-Fanonian perspective of Faustino and Lippold (2023). In the classroom, students should be encouraged to question the very existence of GenAI, engaging with domains such as data collection, employment, gender, race and racialization, indigenous knowledge, and natural resources, making the dilemmas of their decisions visible.

As a closing remark, the implications outlined above should be read as initial proposals, open to refinement as the research program extends to other geographies and develops further. The findings reported here offer a snapshot of the relationship between Generative AI and UX design situated in a particular region and period, valuable on its own terms within this rapidly evolving field.

6. Contributions and future work

This paper contributes an empirical reading of how hiring discourse in Singapore frames Generative AI within UX roles between August and October 2025, and positions job postings as an accessible and

scalable data source for tracking emerging professional expectations. The findings are situated within a broader research program on the integration of Generative AI in design across geographies, which is already underway: comparable analyses have been completed in Portugal, Australia, and Brazil, and are currently under review for publication. Read together, these studies can contribute to a more comprehensive understanding of evolving skills in UX design.

On the methodological side, the manual extraction of job postings used in this study proved time-consuming and introduced minor inconsistencies. This protocol has since been refined, and automated extraction methods are now being incorporated into subsequent data collection rounds. Levenshtein edit distance was tested here for deduplication, and alternative measures such as Cosine or Jaccard similarity are being explored for the next iterations.

Ongoing work also examines how design education can anticipate and respond to emerging industry demands while engaging with the societal and ethical issues associated with AI, including authorship, intellectual agency, access, equity, misinformation, democratic participation, and socio-environmental sustainability. By bringing industry shifts into dialogue with design education, this line of inquiry aims to support design educators in equipping future designers with the skills and critical acumen needed to navigate an AI-infused landscape.

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References:

Andrzejewski, W., Bębel, B., Boiński, P., & Wrembel, R. (2024). On tuning parameters guiding similarity computations in a data deduplication pipeline for customers records: Experience from an R&D project. *Information Systems*, 121, 102323. https://doi.org/10.1016/j.is.2023.102323

Authors (2025). [Details omitted for double-blind review].

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Crawford, K. (2021). Atlas of AI: Power, politics, and the planetary costs of artificial intelligence. *Yale University Press*. https://doi.org/10.12987/9780300252392

Da Cunha, M. V. (2009). The information professional´s profile: an analysis of Brazilian job vacancies on the Internet. *Information Research: An International Electronic Journal,* 14(3) https://informationr.net/ir/14-3/paper407.html

DesignSingapore Council. (2025). *Design 2025 Masterplan*. Retrieved October 7, 2025, from https://designsingapore.org/resources/design-2025/

Doumpioti, C. (2024). Collaborative design with generative AI and collage enhancing creativity and participation in education. *Collaborative Design with Generative AI and Collage: Enhancing Creativity and Participation in Education.* https://doi.org/10.52842/CONF.ECAADE.2024.2.445

Faustino, D., & Lippold, W. (2023). *Colonialismo digital: Por uma crítica hacker-fanoniana*. Boitempo.

Findeli, A. (2001). Rethinking design education for the 21st century: Theoretical, methodological, and ethical discussion. *Design Issues, 17*(1), 5–17. https://doi.org/10.1162/07479360152103796

Frey, C. B., & Osborne, M. A. (2023). Generative AI and the future of work: *A reappraisal. Brown Journal of World Affairs*, 30, 161.

Getto, G., Vance, B., Flanagan, S., & Jacobsen, K. (2023). Emerging UX skill sets: Preliminary findings from a textual analysis of job ads. In 2023 *IEEE International Professional Communication Conference* (*ProComm*) (pp. 230–237). IEEE. https://doi.org/10.1109/ProComm56601.2023.10249139

Google People + AI Research (PAIR). (2019). *People + AI guidebook*. https://pair.withgoogle.com/guidebook/

Harper, R. (2012). The collection and analysis of job advertisements: A review of research methodology. *Library and information research*, *36*(112), 29–54. https://doi.org/10.29173/lirg499

Honorato, F., Clemente, V., & Sosa, R. (2025). UX Design meets Generative AI: posing questions about future implications for design education and practice. In V. Clemente, G. Gomes, M. Reis, S. Félix, S. Ala, D. Jones (Eds.), *Learn X Design 2025,* 22-24 September 2025, Aveiro, Portugal. https://doi.org/10.21606/drslxd.2025.191

Huang, B., & Liu, Y. (2025). Evolving from tool to collaborator: Mapping the capabilities of AIGC in interaction design. In *Proceedings of the 2025 International Conference on Artificial Intelligence, Virtual Reality and Interaction Design* (pp. 631-636). https://dl.acm.org/doi/10.1145/3777730.3777833

Kim, J., & Angnakoon, P. (2016). Research using job advertisements: A methodological assessment. *Library & Information Science Research*, 38(4), 327–335. https://doi.org/10.1016/j.lisr.2016.11.006

Li, S., Shi, B., Yang, J., Yan, J., Wang, S., Chen, F., & He, Q. (2020). Deep job understanding at LinkedIn. *In Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval* (pp. 2145–2148). Association for Computing Machinery. https://doi.org/10.1145/3397271.3401403

LinkedIn. (n.d.). Prohibited software and extensions. *LinkedIn Help*. Retrieved October 7, 2025, from https://www.linkedin.com/help/linkedin/answer/a1341387

Murray-Rust, D., Lupetti, M. L., Nicenboim, I., & van der Hoog, W. (2024). Grasping AI: Experiential exercises for designers. *AI & Society*, 39, 2891–2911. https://doi.org/10.1007/s00146-023-01794-y

Napierala, J., & Kvetan, V. (2023). Changing job skills in a changing world. In E. Bertoni, M. Fontana, L. Gabrielli, S. Signorelli, & M. Vespe (Eds.), *Handbook of computational social science for policy* (pp. 243–259). Springer. https://doi.org/10.1007/978-3-031-16624-2_13

Nielsen, J. (2023). *AI: First new UI paradigm in 60 years.* Nielsen Norman Group. https://www.nngroup.com/articles/ai-paradigm/

Organisation for Economic Co-operation and Development. (2025). National AI strategy. *OECD AI Policy Observatory*. Retrieved October 7, 2025, from https://oecd.ai/en/dashboards/policy-initiatives/national-ai-strategy-10-3320

Schlee, R. P., & Harich, K. R. (2010). Knowledge and skill requirements for marketing jobs in the 21st century. *Journal of Marketing Education*, 32(3), 341–352. https://doi.org/10.1177/0273475310381821

Smart Nation Singapore. (2023). *National AI strategy*. Retrieved October 7, 2025, from https://www.smartnation.gov.sg/initiatives/national-ai-strategy/

Smith-Harvey, J. (2025). Designing with generative AI: Towards technical, ethical, and critical pedagogies in interaction design. In *SIGGRAPH Asia 2025 Educator's Forum* (SA Educator's Forum '25 (pp.1–5). Association for Computing Machinery. https://doi.org/10.1145/3757372.3771861

Van Turnhout, K., Shayan, S., & Smits, A. (2024). Is AI 'just' a new technology? On integrating AI education in digital design curricula. In *Proceedings of the 26th International Conference on Engineering and Product Design Education* (E&PDE 2024) (pp. 61–66). The design society. https://doi.org/10.35199/EPDE.2024.11

Vieira Pinto, A. (2005). *O conceito de tecnologia* (Vol. 1). Contraponto.

Wang, H.-H., & Brown, M. (2025). *Good from afar, but far from good: AI prototyping in real design contexts.* Nielsen Norman Group. https://www.nngroup.com/articles/ai-prototyping/

Weisz, J. D., He, J., Muller, M., Hoefer, G., Miles, R., & Geyer, W. (2024). Design principles for generative AI applications. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (pp. 1–22). Association for Computing Machinery. https://doi.org/10.1145/3613904.3642466