

Are LLMs Leading to an HCI Winter? A Comparison of Sponsorship Trends in HCI and NLP Conferences During the LLM Era

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1 INTRODUCTION

Since Turing's 1950 inquiry, 'Can machines think?', Artificial Intelligence (AI) technologies have rapidly advanced, become widely accessible, and in recent years aim to surpass human capabilities. Traditional AI relies heavily on large datasets annotated by human workers, which limits its capabilities and confines it mostly to lab settings. On the other hand, the recent trend of Large Language Models (LLMs) has made AI technologies practical and introduces significant potential for extension to related fields. This advancement also stimulates recent Human-Computer Interaction (HCI) research, raising the importance of human-AI interaction research. Many HCI researchers have increasingly paid attention to LLMs, publishing a number of papers at HCI conferences (e.g., CHI, CSCW, UIST), ranging from artifacts that use pre-trained models to observations of user behaviors towards AI [4].

However, resources for science are always limited, and AI research and HCI research have unavoidably shared the pie over the decades. Unfortunately, throughout their history, AI and HCI have not maintained a symbiotic relationship, especially in terms of research funding. In 2009, Grudin noted in an article published in AI Magazine that **'When AI was ascendant, HCI languished; during AI "winters," HCI thrived'** [2]. Over the decades, AI research funding has experienced several fluctuations. During perceived "AI winters," both organizations and governments often reduced their investment. Ironically, this highlighted the importance of studying users to better design systems that can reduce computer errors (Figure 1).

Nowadays, Grudin's statement no longer seems to hold. Models and datasets have grown exponentially since 2009. However, it has not been confirmed how LLMs have affected HCI research. Many HCI researchers have paid attention to how HCI impacts the real

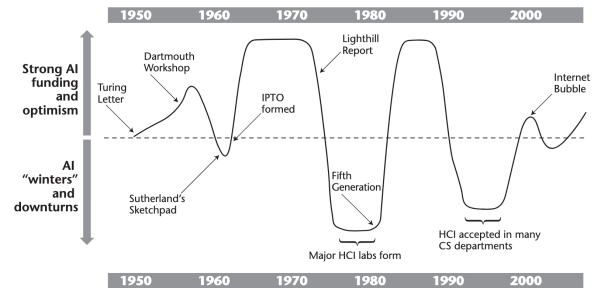


Figure 1: The changing seasons of AI and HCI, as suggested by Grudin [2]

world and is influenced by it or by other research areas [1, 3, 4]. Inie et al. [3] studied how the CHI conference impacts climate change by investigating CO2 emissions produced by using Generative AI in HCI research. Cao et al. [1] traced how HCI research influences practical applications by looking into patent registrations that cited prior HCI research. It can be assumed that funding for HCI research is decreasing and shifting towards AI research, especially when compared to the period between 2010 and 2022, before LLMs gained prominence.

In this work, I investigated how HCI research funding has fluctuated during the recent hype around language models, which have increasingly been applied to human-facing applications. After collecting sponsorship data from six conferences in NLP (ACL, EMNLP, and NAACL) and HCI (CHI, UIST, and CSCW), I analyzed how sponsorship from organizations and companies has changed from 2018 to 2024 (Figure 2).

2 METHODOLOGY

I conducted an analysis of sponsorship patterns across AI and HCI conferences, examining changes in sponsorship that occurred before and after ChatGPT's emergence. For clarity, AI conferences in this context refer to venues focused on technical algorithmic improvements, computational advancements, and novel computer architectures. In contrast, HCI conferences showcase interdisciplinary research at the intersection of human factors, sociology, psychology, and computer science. Since AI conferences are very diverse across modalities (e.g., image, text), I only chose NLP (Natural Language Processing) conferences for this class project. Future

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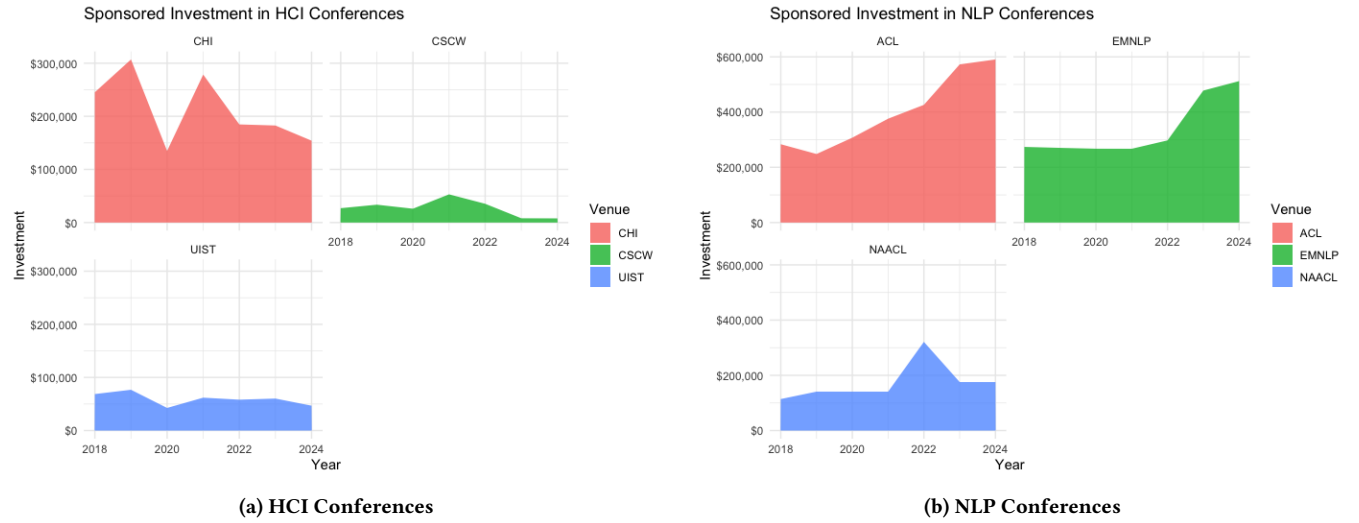


Figure 2: Sponsorship of HCI and NLP Conferences

work could expand the analysis to all AI conferences. For the analysis, I chose three renowned conferences each from the HCI and NLP fields. From the list of HCI conferences, I chose:

- CHI (Human Factors in Computing Systems)
- UIST (User Interface Software and Technology)
- CSCW (Computer-Supported Cooperative Work & Social Computing)

CHI, UIST, and CSCW are regarded as top conferences in the HCI field, each focusing on different aspects. They originated in the 1990s, and CHI in particular encompasses all areas that intersect with human-computer interaction. UIST primarily emphasizes interaction development through engineering, while CSCW concentrates on the societal impacts of HCI through empirical research, such as investigating social media users. From the list of NLP conferences, I chose:

- ACL (Annual Meeting of the Association for Computational Linguistics)
- NAACL (Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics)
- EMNLP (Conference on Empirical Methods in Natural Language Processing)

Among the NLP conferences, ACL is considered the most prestigious, covering a broad range of theoretical and applied topics. EMNLP emphasizes empirical methods, showcasing innovative, data-driven research with a focus on machine learning in language applications. NAACL, while similar to the other two, often emphasizes regionally relevant NLP work alongside global advancements.

From this conference list, I gathered two sets of data for each conference between 2018 and 2024: 1) a list of sponsors, and 2) the investment scale. Generally, sponsors are featured on the conference website, with their sponsor level based on their contribution amount. For example, CHI classifies sponsors into hero, diamond, platinum, gold, silver, and bronze tiers based on the investment levels specified in the sponsor invitation. HCI and NLP conferences

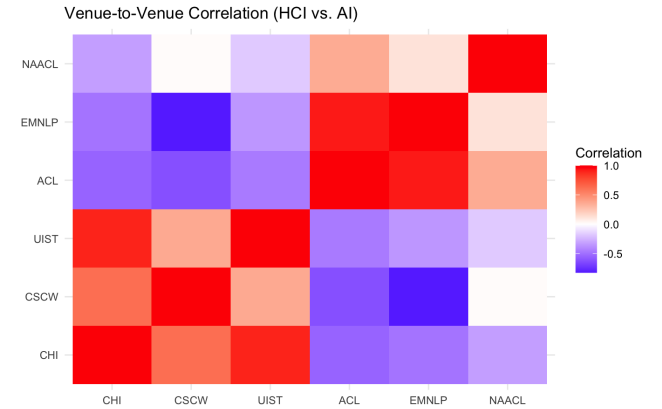


Figure 3: Heatmap showing correlation between NLP and HCI conferences. Purple indicates low correlation, while red signifies high correlation.

are managed by different publishers (ACM and ACL), so their contribution levels vary each year. I referred to the sponsorship booklets the conferences published every year to calculate the total amount of investment. When a website was no longer available, I treated that year's data as the same as the previous year's. From this data, I calculated the total investment made by the sponsors and later adjusted it for the annual inflation rate. All reported values use the U.S. dollar as the primary currency. Since ChatGPT was announced in 2022, I believe that analyzing trends between 2018 and 2024 would highlight changes before and after its introduction.

3 FINDINGS

Figure 2 shows the longitudinal trends in how sponsorship has changed. Figure 2a presents the stacked investment trend aggregating CHI, CSCW, and UIST. Figure 2b presents the stacked investment trend aggregating ACL, EMNLP, and NAACL. Note that the

COVID-19 pandemic began in late 2019, so most of the conferences in 2020 and 2021 were held online.

The descriptive analysis reveals that financial support for HCI conferences from external sponsors consistently decreased from 2018 to 2024 (Figure 2a). Compared to 2018 ($\mu = 113,673.54$, $\sigma = 115,916$), there was a 38.8% decrease in total financial support in 2024 ($\mu = 69,573.76$, $\sigma = 75,758.54$). In the graphs, UIST showed only a marginal decrease compared with CHI and CSCW.

On the other hand, financial support for NLP conferences from external sponsors consistently increased from 2018 to 2024 (Figure 2b). Compared to 2018 ($\mu = 223,810.8$, $\sigma = 95,201.93$), there was a 90.36% increase in total financial support in 2024 ($\mu = 426,083$, $\sigma = 220,469$). Interestingly, while ACL and EMNLP received more financial support after 2022, NAACL decreased in 2024.

Additionally, the heatmap (Figure 3) visualizes the correlation in sponsorship between NLP and HCI conferences. I observe a positive correlation among HCI conferences and among NLP conferences. This means that when funding or support increases for one HCI conference (e.g., CHI), it tends to increase for the others (e.g., CSCW, UIST) as well. On the other hand, I observe a negative correlation between HCI conferences and NLP conferences. In summary, this implies that increased funding for HCI conferences often coincides with reduced funding for NLP conferences, and vice versa.

4 DISCUSSION

Are LLMs leading to an HCI Winter? To answer this research question, I analyzed sponsorship data from conferences related to HCI and NLP research. Based on the preliminary results, I would say ‘Maybe, it is possible.’ As the period between 2022 and 2024 is right after the release of ChatGPT, researchers and practitioners may be full of optimism, thinking that the concept suggested by Turing (‘machines imitating people’) can be realized in the real world. The results suggest that the HCI field is shrinking as a whole, likely due to shared sponsors, budget trends, or coordinated research interests.

However, I want to highlight two things. First, while a correlation exists between the surge in AI investment and declining HCI funding, we should exercise caution before inferring causation. Second, there are other conferences involving NLP, such as NeurIPS and COLING, and it would be beneficial to see how their sponsorship has changed as well.

Also, it is tricky to say an HCI winter is coming, as HCI research can be covered by different areas, not only by these conferences; rather, we could say ‘*an HCI conference winter is coming because of the LLM era.*’ Many NLP researchers have attempted to involve human factors in their research, namely “human-centered NLP.” The main theme of the NAACL 2022 conference was ‘human-centered NLP’, trying to incorporate human values into evaluation. Many companies are still trying to develop human-based benchmarks that allow LLMs to be evaluated from humans’ perspectives. At EMNLP 2024, there was a first workshop named ‘Human-Centered Evaluation of Language Technologies,’ in which HCI and NLP researchers discussed how to advance language technologies with human values. For HCI researchers who mainly publish at HCI conferences, it would be beneficial to broaden their venues to include NLP conferences, to share their perspectives with NLP researchers.

Conversely, we might also ask, “Has the AI winter ended permanently?” The fluctuation in AI research funding is attributed to AI performance falling short of expectations, such as achieving “human-like” functionality [2]. The performance of ChatGPT has generated significant optimism as it operates more flexibly, like a human, so the question can be answered with a ‘yes.’ However, the attempts of NLP researchers to build human-centered NLP still remain at an elementary level. Once traditional AI researchers achieve their goal of improving AI performance, another AI winter may occur.

REFERENCES

- [1] Hancheng Cao, Yujie Lu, Yuting Deng, Daniel McFarland, and Michael S Bernstein. 2023. Breaking out of the ivory tower: A large-scale analysis of patent citations to HCI research. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–24.
- [2] Jonathan Grudin. 2009. AI and HCI: Two fields divided by a common focus. *AI magazine* 30, 4 (2009), 48–48.
- [3] Nanna Inie, Jeanette Falk, and Raghavendra Selvan. 2025. How CO2STLY Is CHI? The Carbon Footprint of Generative AI in HCI Research and What We Should Do About It. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*. 1–29.
- [4] Rock Yuren Pang, Hope Schroeder, Kynedy Simone Smith, Solon Barocas, Ziang Xiao, Emily Tseng, and Danielle Bragg. 2025. Understanding the LLM-ification of CHI: Unpacking the Impact of LLMs at CHI through a Systematic Literature Review. *arXiv preprint arXiv:2501.12557* (2025).