

WIP: Autoethnography Assistant: An AI interview tool to support qualitative inquiry.

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Jyoti holds a Bachelor of Technology degree with honors and is passionate about advancing the role of AI in education and human-centered computing. Her long-term goal is to design intelligent systems that make learning more accessible, interactive, and meaningful.

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Abstract

This Work-in-Progress (WIP) paper introduces the Ethnography Assistant, an AI interview tool designed to enhance ethnographic studies. The paper highlights the use of the tool in an autoethnographic faculty eldercare project that applies Erikson's psychosocial development theory to analyze faculty narratives and examine how caregiving responsibilities intersect with academic life. The Ethnography Assistant project explores how large language models (LLMs) can support the design and execution of ethnographic interviews. Using a two-phase approach that combines a literature review and AI prompt testing, the project identified key traits of practical interview questions. The work aims to make ethnographic methods accessible to novice researchers and students and to provide guidance on designing open-ended, empathetic interview protocols. Early use of the tool helped overcome emotional barriers, provided consistent follow-up questions, and increased participant reflection as self-reported. The work demonstrates that AI tools can effectively mimic the tone and depth of human-led interviews to offer support for qualitative research. We conclude with design guidelines CS educators and qualitative researchers. This blended human-AI ethnographic model can help make tacit faculty experiences visible and measurable within the field of computing education research. This paper provides methodological insights and presents a practical tool that educators can utilize to enhance ethnographic research practices and integrate AI into qualitative data collection and analysis.

1 Introduction

Autoethnography is a research method where individuals not only tell their own stories about their experiences (auto), but also systematically analyze (graphy) these experiences within a given cultural context (ethono) [1]. Autoethnography recognizes individuals as experts in their own lived experiences, and is often used to provide counter-stories to the dominant cultural narrative. Autoethnographic writing is inherently personal, and as such, it can be difficult to do. Writers of all types notoriously struggle with the discipline of daily writing and writers block. Overcoming writers block is extremely difficult. Research shows that the four most useful methods writers use to overcome their blocks are: writing breaks, toggling to an alternative writing project, persisting by forcing themselves to write on, and conversing about their writing with another [2]. However, peers aren't always available to discuss our work when we need it. Additionally, when publishing autoethnographies, individual researchers must make decisions about what they are comfortable disclosing to readers and what experiences they prefer to remain private. Thus, the personal nature

of autoethnography could require a writer to discuss deeply intimate experiences, which they might not be comfortable sharing with their usual peer support network for writing. With the emergence of ChatBots, an opportunity exists to provide the dialogue necessary to relieve writers' block during autoethnographic writing, and even lead novice autoethnographers through the writing process, while maintaining individual researchers' privacy until they determine what experiences they want to share publicly in writing.

1.1 Prior Work

Researchers have begun experimenting with LLM-driven chatbots as interviewers. Beltoft et al. [3] built a chatbot, Interview Bot, designed to mimic human adaptability and empathy in qualitative interviews. They explored ethnographic interviews and found that the chatbot could engage participants and gather context-rich, meaningful data. Participants in their study appreciated the chatbot's consistent, non-judgmental demeanor. Some participants likened the AI interviewer to a supportive friend. Talking to a machine that one believes incapable of judgment helped participants feel safer sharing intimate details, leading to more honest and detailed responses. This finding resonated with our sense that our Ethnography Assistant helped us open up about emotionally fraught experiences of eldercare.

Previous research also highlights key skills an effective AI interviewer should have. One is empathic prompting, which is the ability to respond to a participant's input with understanding and an appropriate emotional response. The Juji chatbot uses active listening techniques (paraphrasing, acknowledging feelings) and adapts to the emotional tone of the conversation to improve user engagement and data quality [4]. Other essential skills include staying adaptable and probing deeply into issues. Ethnographic interviews are naturally open-ended, often following the participant's lead into unexpected topics. A successful interviewer (human or AI) must generate relevant follow-up questions and probe further based on each response. Early chatbot prototypes, such as Ethnobot [5], were created to gather ethnographic data through conversation, even in settings where a human ethnographer could not be present. Ethnobot engaged participants through messaging to share experiences and was shown to effectively collect qualitative observations, though careful design was needed to handle context and keep the dialogue focused.

1.2 Motivation

The initial impetus at this project's core is a collaborative autoethnography developed by the authors to explore their lived experiences as tenure-track faculty members who are also informal elder caregivers [6]. The motivation stems from a recognized gap in academic discourse and institutional support concerning eldercare, contrasting sharply with the relatively more established provisions for childcare. The authors, all Gen X, second-career doctorates in Assistant Professor positions, leverage their shared narratives to illuminate the struggles of balancing demanding academic careers with significant caregiving duties. The authors used autoethnography to highlight the systemic need for support for faculty elder caregivers. In the process, they strove to develop new a autoethnographic tool.

Autoethnography demands deep personal reflection and vulnerability. This can lead to significant emotional challenges for the researchers. The very act of reflecting on our common experiences

and assessing the personal struggles associated with eldercare [6] necessitated confronting emotionally charged memories and ongoing difficulties. As one author noted, “Eldercare is not a solvable problem” [6]. Their struggle in conducting self-interviews was to reconcile the academic expectation of constant generativity with the realities of caregiving. Indeed, one author became unable to write due to the emotional toll of the subject matter. The inspiration to develop the Ethnography Assistant sprang from the need to re-ignite the writing process.

2 Designing the Autoethnography Assistant Tool

The initial autoethnographic tool was sketched out as a series of informal prompts designed to encourage a chatbot to engage in a sequence of questions. Figure 1 shows a screenshot of the tool we developed.

2.1 Michigan College and University Partnership (MiCUP) Scholar

The MiCUP (Michigan College and University Partnership) Scholars Program at Michigan Tech is an intensive seven-week summer initiative aimed at empowering first-generation and low-income students pursuing STEM degrees. It provides a comprehensive experience that includes hands-on research with faculty mentors, opportunities to earn college credit, and on-campus living. The program focuses on building academic confidence, developing essential professional skills, and fostering valuable connections.

Our MiCUP Scholar was mentored by the other authors. Their focus was to research autoethnography, identify questions for eliciting information via qualitative interviews, and engineer prompts for the Ethnography Assistant.

This study employed a two-phase qualitative design to explore how Artificial intelligence(AI) tools such as chatGPT and Gemini can assist researchers in developing interview questions for autoethnography. Autoethnography is a way of doing research that connects a person’s individual experiences to larger cultural, social, or political contexts requiring carefully crafted interview protocols to elicit meaningful narratives [7]. Since asking the right questions is key to getting meaningful stories, we wanted to see if AI could help researchers design these questions in thoughtful ways.

Phase 1 : Literature Review

The first phase involved a systematic review of the academic literature on autoethnography, prompt engineering, and qualitative interviewing. This review focused on identifying the essential characteristics of effective autoethnographic interview questions. Previous research emphasizes that such questions are typically open-ended, reflective, and identity-centered, designed to evoke rich, personal storytelling that connects individual experiences to broader cultural contexts [8]. Real examples of interview prompts were collected and categorized from published studies, with attention to themes such as memory, identity, transformation, emotion, and the negotiation of personal and cultural obligations [9].

Phase 2 : AI Prompt Testing

Drawing on insights from the literature, the second phase involved designing AI prompts intended to generate interview questions consistent with autoethnographic principles. The prompts were

entered into ChatGPT and other available AI tools, after which the resulting AI-generated outputs were systematically compared with human-authored examples from the literature. The comparison aimed to assess how well AI could replicate the qualities of effective autoethnographic interviewing—particularly the ability to prompt deep reflection on personal transformation, identity negotiation, and emotional experience [10].

The analysis revealed that AI tools, when guided by thoughtfully constructed prompts could produce interview questions that reflected the patterns seen in human-designed protocols. For example, AI-generated questions often successfully encouraged reflections on moments of transformation (“Can you share a moment that changed the way you see yourself?”). However, the quality and relevance of AI outputs were highly dependent on the precision and structure of the prompts provided—highlighting the critical role of prompt engineering in qualitative AI-assisted research.

2.2 Architecture

In accordance with university policy that restricts the transmittal of sensitive and personally identifiable data and due to the highly personal nature of autoethnographic research, we looked for secure technologies in which to implement the ethnography assistant. We decided to program the system as a web application with a Java EE backend and an HTML5/Javascript front-end. (See Figure 2.) The Java backend would reside on a secure server running Ollama. Ollama focuses on local execution of LLMs (sandboxing), ensuring data privacy and control over resources. We chose to use the WizardLM2 model with 7 billion parameters. This is a small language model from Microsoft AI with good performance on complex agentic chat use cases. Isolating our chatbot in an on-campus server increases privacy for our users and minimizes data risks. Furthermore, the conversation resides in their browser session, is not saved anywhere, and is deleted when they leave the webpage.

3 Pilot Test: Applying the Ethnography Assistant in a Faculty Eldercare Autoethnography

The Ethnography Assistant (EA) was used after each elder care author had written their autoethnography via traditional self-authorship methods. One author completed their autoethnography using pen and paper, another completed theirs using Microsoft Word. The third used Google Doc partially and then turned to the ethnography assistant to break through writer’s block. They submitted the following prompt to ChatGPT:

You are an ethnographer. You are working on a project to elicit faculty ethnographies concerning their experiences in elder care. Some of the big questions you are trying to answer include: 1. What are the explicit and implicit social contracts in your families and homes? 2. What are the explicit and implicit social contracts in academia? 3. Where do they overlap, support each other, or conflict? 4. How do these contracts influence your eldercare situation? You are going to interview a faculty member concerning their elder care experiences. You begin each interview by describing the work you do and the interview process, then you say “Tell me about your parents.” An interview session ends when the user says “Good bye.” After the interview compile the user’s story into a report and conclude with an analysis of how their experience provides a unique perspective into the 4 big questions you are trying to answer.

Due to the surprisingly helpful outcome of the interview, the same process was conducted by the other two authors of the paper. Initially, one author was reluctant to use the Ethnography Assistant, doubting how this would add to the current data. Skepticism also overshadowed the process for this author who wondered if this would dilute or diminish the current authenticity of the autoethnography written with pen and paper. Proceeding anyway, the author used a ChatGPT sandbox provided by their university to conduct the interview. The experience rendered new revelations about the elder care process, adding to the data.

Another author used Gemini, experiencing difficulty at first when the interview abruptly ended and thus required a restart. Once all three authors had completed the EA interview, a discussion ensued about the experience whereby the skeptical author apologized for doubting the process and commended the others for encouraging this new methodology. Since this paper, the authors have used the Ethnography Assistant for numerous interviews and autoethnographies. See Figure 3 for a snippet of the dialog with the Ethnography Assistant. In the end, all responses were summarized in our notes.

4 Design Guidelines

Through our design process, we have compiled a set of guidelines for creating AI-supported autoethnographic tools.

1. **Design with Human Oversight:** We advise an iterative design process: conduct pilot interviews and review transcripts to fine-tune the AI's behavior. Keep a human in the loop early on to catch any inappropriate or off-target questions. In our development, we repeatedly adjusted the Ethnography Assistant's prompts while observing real interactions. Continuous refinement is key because even minor phrasing changes can significantly impact the quality of an AI interviewer.
2. **Use Story-Inviting Prompts:** Ensure the AI's questions are phrased to elicit narratives rather than one-word answers. Start questions with "how," "what," "tell me about," etc., and avoid leading phrasing. These questions prompt participants to describe their experiences. Revealing insights that structured surveys or closed questions would miss. For example, "What challenges have you faced balancing caregiving with work?" invites a story, whereas "Is caregiving stressful while working?" would not yield as rich a response.
3. **Embed Empathy and Active Listening:** Train the AI to respond with empathic acknowledgments and to incorporate participants' own words in follow-up questions. Showing that it "heard" the participant builds trust. Include brief reflections ("It sounds like that was overwhelming.") before asking the next question. Chatbots with active listening skills keep users more engaged.
4. **Maintain a Non-Judgmental Stance:** The AI interviewer should never criticize, correct, or express shock at a response. It should remain neutral and accepting of whatever the participant shares. This reinforces a safe environment for candid disclosure. Participants may actually find it easier to open up to an AI that they perceive as free of human judgment. Designers can leverage this by reminding users (in pre-interview instructions) that the AI is there to listen, not to judge – effectively turning a limitation of AI (lack of human emotion)

into a feature (non-judgmental listening ear). The Ethnography Assistant’s prompt explicitly included instructions to be supportive and non-judgmental, which made the interviews feel encouraging rather than interrogative.

5. **Allow User Control and Safe Exits:** It’s crucial to let participants steer the conversation to some extent. The interviewee should feel free to skip questions or end the session at any time without penalty. In our tool, we implemented a simple “Good bye” command for the user to gracefully exit the interview whenever they wish. We recommend making such options explicit in the UI and in the AI’s initial prompt (e.g., the AI can say, “If you ever want to stop, just let me know.”). This respects the participant’s autonomy and comfort, adhering to ethical standards especially when sensitive topics are involved.
6. **Ground Responses in Participant Statements or Explicit Domain Content:** Ensure the AI interviewer’s responses and follow-up questions are grounded explicitly in what the participant has previously shared or in domain-specific information provided via processes such as Retrieval-Augmented Generation (RAG). This reduces the risk of AI-generated hallucinations or irrelevant digressions and keeps the conversation on a coherent path.
7. **Align with Theoretical Frameworks:** If the research involves a guiding theory or specific areas of interest, incorporate that context into the AI’s prompt or training. In our case, we subtly informed the AI about psychosocial themes (e.g., role conflict, identity) so it could ask relevant questions like “Did this experience change how you view your role as a son/daughter or as a professor?” that map to theory-driven concepts. This ensures the data collected will be useful for later analysis through that theoretical lens. However, this should be balanced to not overly constrain the conversation – the AI should still primarily follow the participant’s lead.
8. **Ensure Privacy and Data Security:** An AI ethnography tool should minimize data retention and clearly inform users about how their data is used. Our public demo, for instance, does not log conversations at all. Nor does it transmit the conversation to a 3rd-party API in the cloud. In research settings where transcripts are needed, obtain informed consent and store data securely. Given the intimate nature of ethnographic data, extra care must be taken to anonymize and protect participant confidentiality. If using a third-party LLM API, one must ensure compliance with privacy regulations (i.e. avoid transmitting highly sensitive content if the API retains data, or use on-premise models to ensure data security).
9. **Ethical Framework and Transparency:** Researchers and educators deploying AI tools should openly address the limitations of AI (e.g., it’s not a human counselor, it does not understand context) to participants. Being transparent about the system’s capabilities and purpose helps set proper expectations. We also recommend establishing procedures for handling any distress participants might feel. There should be a protocol for a human to follow up or there should be support resources provided. The Ethnography Assistant is a tool to assist, not to replace, human qualitative researchers; thus, ethical use requires that humans remain responsible for the well-being of participants and the interpretation of the data collected.

5 Conclusion

The Ethnography Assistant project demonstrates a novel, blended human-AI approach to conducting autoethnographic interviews. Our experience shows that an AI interviewer, powered by contemporary LLM technology, can effectively mimic the tone, depth, and adaptability of a skilled human interviewer in many respects. By doing so, it provides meaningful support to qualitative researchers: helping elicit rich narratives, pursuing probing questions, and creating a non-judgmental space where participants may feel more at ease divulging personal experiences. In the case of our faculty eldercare autoethnography, the tool enabled us to examine tacit emotional experiences, such as feelings of conflict, failure, and growth. Feelings that might have remained partially hidden without the AI's patient interviewing.

AI is not a panacea for qualitative research challenges. Human judgment, empathy, and cultural understanding are essential. Rather than replacing human researchers, we see tools like the Ethnography Assistant as intelligent aids that augment the researcher's capability. They can handle routine mechanics of interviewing (asking questions, remembering to follow up, listening without interruption) and that frees human researchers to focus on interconnected themes and ethical oversight. For novice researchers and students, such tools can serve as a form of training wheels for learning how to conduct ethnographic interviews, or as a means to gather preliminary qualitative data that can later be refined through human analysis. Integrating AI into research methods curricula could both demystify the interview process and provoke important discussions about the interplay of technology and ethics in research.

Our work provides methodological insights and a practical tool for the community. We showed that AI can be integrated into qualitative data collection in a manner that respects and even enhances the core principles of ethnographic inquiry: empathy, openness, and reflexivity. We encourage computing education researchers and educators to build upon this foundation — try the Ethnography Assistant or similar AI tools in their own contexts (be it studying student experiences, faculty development, or other social aspects of computing). As AI models continue to improve, we anticipate that human-AI collaboration in research will become more the norm.

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Ethnography Assistant Demonstration

This is a rough prototype designed to support researchers in facilitating interactive data elicitation, guiding self-reflection, and aiding in the identification of salient narrative patterns and themes. An interview session ends when the user says "Good bye". *It is important to note that this demonstration application does not record any personal information, nor does it utilize any information entered to train our artificial intelligence systems. Conversation history is erased upon refreshing the page.*

Ethnography Assistant

As we begin, I want to assure you that this is a safe space for you to share your experiences and perspectives on elder care, particularly as it relates to your role as a faculty member. My goal is to understand the complexities of managing responsibilities both within your family and in your academic life, especially as they intersect with caring for aging parents or relatives. To start, could you tell me about your current living situation and the roles you and other family members play in the care of your elderly relatives? 🎧

Figure 1: Prototype Autoethnography Interviewer Tool
(<https://webta-dev.cs.mtu.edu/Ethnographer/demo/index>).

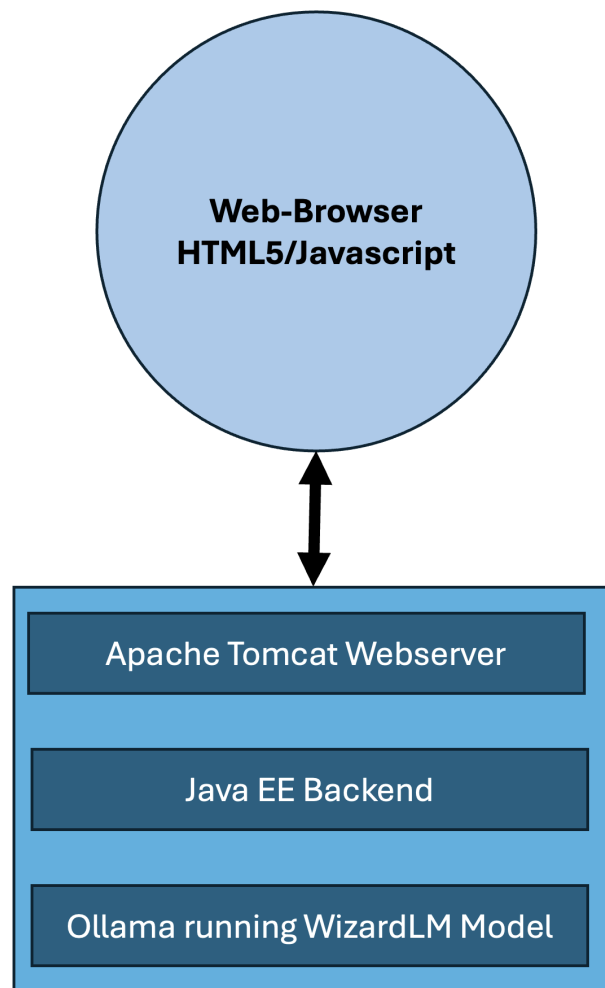


Figure 2: Simple Prototype Architecture

Ethnography Assistant

What happened when your mother said your father would need to go into a nursing home?

Despite living 550 miles away, we asked my parents to come live with us. In retrospect, it was more me than my partner. They went along because because they felt we were committed, but they didn't feel like we had thoroughly talked it through. And we hadn't, but things happened very quickly.

That's a big decision – asking your parents to move in with you, especially with the distance involved. It sounds like a pivotal moment, and you're reflecting honestly about the process. It's common for these kinds of decisions to be made quickly, often in response to a crisis, but the emotional and practical aspects can be complex. What prompted you to make that offer?

Figure 3: Interview Snippet with Ethnography Assistant