Getting Virtually Personal: Making Responsible and Empathetic “Her” for Everyone

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ABSTRACT

Have you watched the movie Her? Have you ever wondered or wished to have your own AI companion just like Samantha, who could understand you better than you know about yourself, and could tell you what you really are, whom your best partner may be, and which career path would be best for you? In this talk, I will present a computational framework for building responsible and empathetic Artificial Intelligent (AI) agents who can deeply understand their users as unique individuals and responsibly guide their behavior in both virtual and real world.

Starting with a live demo of showing how an AI interviewer chats with a user to automatically derive his/her personality characteristics and provide personalized recommendations, I will highlight the technical advances of the framework in two aspects. First, I will present a computational, evidence-based approach to Big 5 personality inference, which enables an AI agent to deeply understand a user’s unique characteristics by analyzing the user’s chat text on the fly. Second, I will describe a topic-based conversation engine that couples deep learning with rules to support a natural conversation and rapid customization of a conversational agent.

I will describe the initial applications of our AI agents in the real world, from talent selection to student teaming to user experience research. Finally, I will discuss the wider implications of our work on building hyper-personalized systems and their impact on our lives.

CCS CONCEPTS

- **Computing Methodologies** → **Intelligent Agents**
- **Human-centered computing** → **Interactive systems and tools**

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KEYWORDS

Conversational Agent, Chatbot, AI Interviewer, Responsible AI, Empathetic AI, Personality Inference, Computational Psychology, Hyper-Personalization

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BIOGRAPHY

Michelle Zhou is a Co-Founder and CEO of Juji, Inc., a high-tech startup located in Silicon Valley, specializing in building responsible and empathetic Artificial Intelligence agents that can deeply understand users and guide their behavior based on their psychological characteristics. Prior to starting Juji, Michelle led the User Systems and Experience Research (USER) group at IBM Research – Almaden and then the IBM Watson Group. Michelle’s expertise is in the interdisciplinary area of intelligent user interaction (IUI), including conversational systems, and personality analytics. She has published over 100 peer-reviewed, refereed articles and filed over 40 patents. Michelle is currently the Editor-in-Chief of ACM Transactions on Interactive Intelligent Systems (TiiS) and an Associate Editor of ACM Transactions on Intelligent Systems and Technology (TIST). She received a Ph.D. in Computer Science from Columbia University and is an ACM Distinguished Scientist.

Figure 1. A screenshot of an interview conducted by an AI interviewer (AI Minion) and a user (Sara).

SYSTEM ILLUSTRATIONS

Figure 1 is a screenshot of an example conversation between our AI agent and a user. It shows that the agent (AI Minion) is able to interpret the user's input and respond to it properly. Figure 2 shows the user interface where a creator can customize the persona of an AI agent as well as the conversation.

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Figure 2. A creator's interface where the creator can customize the persona and the conversation of a conversational AI agent.

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