Tuhina Das

ISM II

Research Assessment #2

Date: September 9, 2024

Subject: Full-Stack Software Development

Assessment: Annotated Bibliography #1

Alhuwaydi, A. M. (2024, May 21). Exploring the Role of Artificial Intelligence in Mental Healthcare: Current Trends and Future Directions – A Narrative Review for a Comprehensive Insight. *Risk Management and Healthcare Policy*, *17*, 1339-1348. http://dx.doi.org/10.2147/RMHP.S461562

The author presented an intriguing narrative review of today's artificial intelligence (AI) landscape in relation to mental health treatment, as well as potential routes that mental health treatment with AI could take. From the introduction, I was surprised to learn that the first AI chatbot (known as ELIZA) was developed in 1966 to explore superficialities of human-computer interaction and automated mental healthcare. The author also makes note of several potential technological gaps that today's AI could explore to become better-suited for mental healthcare. One of these gaps in particular was significant to me: addressing patients' sociocultural background. In my research about approaching mental health treatment so far, I have seen little discussion over how different sociocultural backgrounds can possibly leave patients feeling isolated. This might be a potential avenue for future research as I continue to explore the possibilities of using software to treat mental health conditions.

Casale, T. B., Warren, C., Gupta, S., Schuldt, R., Wang, R., Iqbal, A., Seetasith, A., & Gupta, R. (2024, March 23). The mental health burden of food allergies: Insights from patients and

their caregivers from the Food Allergy Research & Education (FARE) Patient Registry. *World Allergy Organization Journal*, *17*(4). https://doi.org/10.1016/j.waojou.2024.100891

As researchers from Northwestern University and Genentech, Inc., the authors assess the extent to which food allergies affect individuals mentally. Following my research into the connection between type 2 diabetes and mental health issues such as depression, I grew curious about the possibility of a coexistence with food allergies. One point of interest was that in their publication, the authors investigated the connection between food allergies and mental health conditions such as anxiety by analyzing patient data from online surveys conducted by organizations in the FARE Patient Registry, a database that allows people with food allergies to share their experiences with researchers. I learned nearly two-thirds of respondents in the study reported experiencing anxiety, either after an allergic reaction or about living with food allergies – but little information described what specifically triggered anxiety in patients. This is something I hope to better understand in other sources.

Egmose, B., Huniche, L., Bindslev-Jensen, C., Nielsen, D. S., & Mørtz, C. G. (2024, July 11). Exploring young adults' experiences with food allergy during their teenage years: A practice research study. *Scandinavian Journal of Caring Sciences*. https://doi.org/10.1111/scs.13283

I significantly appreciated reading the authors' method of collecting data to analyze young adults' perspectives on daily living with food allergies. Unlike previous publications I had read about, which analyzed previously-collected data to draw conclusions, this article involved collecting data from participants through a series of

face-to-face interviews and discussions. And while the data pool was significantly smaller, this allowed for more detailed analyses of participants' responses, which was perhaps the most enriching aspect of this read. For example, participants noticeably reported anxiety around the social limitations of their food allergies, while trying to balance their desire for autonomy with safety. For a final product, I could potentially focus on alleviating a patient's sense of isolation.

Ghadiri, P., Yaffe, M. J., Adams, A. M., & Abbasgholizadeh-Rahimi, S. (2024, June 13). Primary care physicians' perceptions of artificial intelligence systems in the care of adolescents' mental health. *BMC Primary Care*. http://dx.doi.org/10.1186/s12875-024-02417-1

I initially had not considered the possibility of using artificial intelligence (AI) to address sources of mental health concerns in patients. But I happened upon this publication and was curious about what possible modes of treatment AI could be used for, as well as the ethical concerns associated with them. The authors investigate primary care physicians' (PCP) perceptions of applying AI to aiding in the treatment of adolescents' mental health by conducting focus groups and facilitating discussions. Unsurprisingly, there were concerns regarding the ethics of patient privacy and decision-making with regards to AI; however, there were also several interesting benefits of using AI presented by PCPs that I had previously not considered. For example, most PCPs discussed how AI could more easily collect data from adolescent patients who would otherwise be less likely to divulge certain information to a real person. Perhaps for a final product, I could consider building something that eases the disconnect between an adolescent patient and their PCP.

Huang, S., Lai, X., Ke, L., Li, Y., Wang, H., Zhao, X., Dai, X., & Wang, Y. (2024, March 12). AI Technology panic—is AI Dependence Bad for Mental Health? A Cross-Lagged Panel

Model and the Mediating Roles of Motivations for AI Use Among Adolescents. *Psychology Research and Behavior Management*, *17*, 1087-1102. http://dx.doi.org/10.2147/PRBM.S440889

The authors' publication offers a fresh perspective on the implications of artificial intelligence (AI) use on mental health in adolescents – specifically, what motivates adolescent AI use. Their methodology for this study was collecting longitudinal data on Chinese adolescents through paper questionnaires assessing their agreement with statements about their AI use. Researchers inquired into numerous motivations behind AI usage, including social motivation, escape motivation, entertainment, and instrumental motivation. Initially, I believed that AI did little to mitigate adolescents' mental health issues, since today's models still lack the intricacy of developing interpersonal relations that humans possess. Surprisingly, though, the results of this study identified that mental health problems were more likely to lead to dependence on AI usage, and that AI usage was more frequently used as a means to fulfill adolescents' social needs. This is consistent with Ghadiri et al.'s study, which discusses adolescents' desire to interact with someone with little-to-no judgment, and acts as further basis for an investigation into potentially building something to address social isolation in teens.