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Dear Members of the Search Committee,

I am writing to apply for the position of Tenure-Track Assistant Professor in Department of Computer Science beginning Fall 2024, as advertised on your department website. I am currently a doctoral candidate at the University of California, Los Angeles, and fully expect to complete my Ph.D. degree requirements by May 2024. I am extremely interested in obtaining a faculty position at Montana State University, where I can contribute to its focus on machine learning and artificial intelligence, continue my research on efficient and trustworthy machine learning, and lead campus and professional service activities.

My academic training prepares me to be an effective researcher and instructor in your department. My doctoral dissertation was conducted in consultation with Prof. Quanquan Gu, and aims to develop a comprehensive characterization of preference-based learning. In my research, I developed algorithms that efficiently recover the ranking from human preferences or accurately estimate the preference model. My algorithms require significantly less human feedback in practice and promote our understanding of what is the fundamental amount of human data necessary to extract human preferences and values. I am excited to share and continue to explore this methodology and collaborate with your department faculty to expand its potential.

In addition to my dissertation research, other areas that interest me for my future research stem from my goal of developing efficient and trustworthy AI alignment methodologies, including reinforcement learning for efficient training and alignment, as well as trustworthy machine learning methods to ensure system privacy and robustness. One of the studies that I have started is the development of a preference-based reinforcement learning method for direct and efficient online learning with human feedback. I have also worked on efficient collaborative learning of human preferences from heterogeneous user groups. These are just a couple of projects I plan to continue and grow with the support of Montana State University.

During my graduate training, I was also fortunate enough to have served as a teaching assistant for an intermediate course on artificial intelligence at UCLA. I found that my research experience in the area of artificial intelligence provided me with a broad view that is useful in assisting students with projects and assignments. These experiences have built my confidence and interest in teaching and I look forward to the opportunity to not only teach existing courses but also work to develop new ones.

I would enjoy discussing this position with you in the weeks to come. In the meantime, I am enclosing my curriculum vitae and statements of diversity, teaching, and research interests. Letters of recommendation will arrive under separate cover. If you require any additional materials or information, I am happy to supply it. Thank you very much for your consideration.

Sincerely,  
Yue Wu