6 Pancras Square
London, United Kingdom, N1C 4AG

November 17, 2019

Faculty Search Committee
Department of Electrical Engineering and Computer Science
Massachusetts Institute of Technology
Cambridge, MA 02139

Dear Committee Members,

I am delighted to apply for a tenure-track assistant professor position in the Department of Electrical Engineering and Computer Science at MIT, recently advertised on your website.

I am a staff research scientist at DeepMind, where I lead an effort toward general linguistic intelligence. Prior to DeepMind, I spent seven months at Baidu Silicon Valley AI Lab. I received my PhD from the School of Computer Science at Carnegie Mellon University in August 2015. While I have learned a great deal during my time in industry, I have decided to conduct a narrow search for a position in academia where I can contribute to training the next generation of researchers. My research interests are in machine learning and natural language processing. My strength in research is demonstrated by a strong publication record at the most competitive forums in both areas. My teaching experiences show my passion about computer science education.

My work is fully described in my research statement, but I will highlight some of my practical and formal contributions. My goal is to build an agent that is capable of performing multiple linguistic tasks (e.g., question answering, translation, summarization) in multiple languages and uses its experience to continuously improve over time. I have made significant advances on this difficult problem on several fronts. For example, my collaborators and I augmented a neural network with an episodic memory module to enable the neural network to accumulate knowledge throughout its lifetime. In another work, we described how to transfer a monolingual (e.g., English) model into multiple languages in an unsupervised manner without any parallel data. On the theoretical side, we showed that existing language representation learning methods maximize a lower bound on the mutual information between different parts of a sentence and used this insight to present a holistic framework to translate progress across multiple domains (e.g., natural language processing, computer vision, audio processing). I intend to continue working in these areas and pursue other related directions in the future.

I recognize the importance of undergraduate and graduate education at MIT. I enjoy teaching and I am passionate about increasing diversity in computer science. At CMU, I served as a teaching assistant for ML and NLP courses. I have also co-presented a tutorial at one of my field's top conferences on structured sparsity in natural language processing. My diversity initiatives include leading the organization of the inaugural Southeast Asia Machine Learning School. My teaching philosophy is described in my teaching statement.

Please expect letters of recommendation from Noah Smith (UW), Chris Dyer (DeepMind), and Kyunghyun Cho (NYU). Contact details are listed in my CV.

Please contact me if there are any further questions regarding my application. I have great respect for your department and I am excited at the prospect of becoming a part of it.

Sincerely,

Dani Yogatama