Application: NBER Digital Economics and Artificial Intelligence Tutorial

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I am a third-year Ph.D. student in the Joint Program in Financial Economics at the University of Chicago, Booth School of Business, and the Kenneth C. Griffin Department of Economics. Originally from Germany, I earned a B.Sc. and M.Sc. in Economics from the University of Mannheim with a focus on econometrics. Prior to my doctoral studies, I worked as a Research Professional at the Fama-Miller Center for Research in Finance at Chicago Booth, the German Central Bank and the European Parliament.

My research focuses on leveraging artificial intelligence and machine learning to explore mechanisms behind expectation formation in financial markets, with a particular emphasis on their applications to asset pricing. Below is an abstract of one of my current projects[1]:

In this paper, I develop a novel dataset that connects 290,000 equity analyst reports with their corresponding I/B/E/S forecasts. I examine the role of memory in analysts' forecasts by introducing a new measure that incorporates a contextual recall mechanism. This measure not only accounts for the observed recall patterns but also allows for the simulation of earnings forecasts that closely match those made by analysts. I show that a 10 p.p. increase in the constructed contextual recall probability translates into a 9.3 p.p. increase in the actual recall probability that is extracted from the reports. I show that transformer models are fundamentally equivalent to standard cognitive models of contextual retrieval. By leveraging this equivalence, I train a model that captures both cross-sectional and time-series patterns, explaining up to 43% of observed recall behavior - substantially more than the 8% achieved by traditional belief formation models.

As a first-generation college student, I value opportunities like this to engage with leading research and expand my perspective. Thank you for considering my application, I would be grateful for the chance to attend in February!

[1]Full Paper: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5017059