Department of Marketing

WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

Research Seminars Series

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Bots Bargaining with Humans: Building AI Super-Bargainers with Algorithmic Anthropomorphization

Abstract: Bargaining is increasingly being automated by firms using AI. However, little is known about the psychological impact this would have on consumers. Since most solutions discussed in the literature to mitigate algorithm aversion are inapplicable in coopetition contexts like bargaining games, we propose a novel approach, algorithmic anthropomorphization, as a potential solution. We train a bargaining AI within a Generative Adversarial Network (GAN) framework and task it with reaching superior economic outcomes while appearing "human" in doing so. We then experimentally compare it to two alternative bot specifications: a primitive bot that mimics human behavior and a purely economic-efficient bot. Our results suggest that (a) while superficial anthropomorphization helps portray a bot as a human, it does not improve subjective evaluations the slightest, and (b) algorithmic anthropomorphization offers the promise of a solution, albeit imperfect. However, even when bots behave in a way that is undistinguishable from humans, they still appear to fall prey to the "uncanny valley" phenomenon, thereby leading to lower subjective evaluations, irrespective of their economic performance. Knowing that subjective evaluations of negotiations predict the outcome of future negotiations, we discuss the potentially negative impact AI bargaining algorithms may have on long-term customer relationships.

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