AI-Powered Financial Literacy Assistant

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Our project addresses the knowledge gap between sophisticated and unsophisticated investors. Many unsophisticated investors avoid capital markets because they cannot interpret firms' financial information—a deficiency that exposes them to losses and weakens trust in financial markets. General-purpose AI tools such as ChatGPT have created new opportunities to narrow this gap. However, these benefits are not equally distributed across languages. In Azerbaijan, the local language and market context are underrepresented in the training data of leading large language models. To test this, we systematically compare GPT-4's responses to 50 financial questions posed in both Azerbaijani and English, evaluating each on factual accuracy, contextual relevance, completeness, clarity, and actionability through a blinded expert panel. Our findings quantify the extent to which Azerbaijani-speaking users receive lower-quality financial guidance from general-purpose AI. Building on this evidence, we fine-tune an AI-powered financial literacy assistant on curated Azerbaijani-language data—including Baku Stock Exchange publications, FIMSA regulatory documents, and local financial journalism. We then re-evaluate the fine-tuned model using the same test bank and rubric, enabling a direct three-way comparison: base GPT-4 in English, base GPT-4 in Azerbaijani, and our fine-tuned model in Azerbaijani. Our goal is to demonstrate that a locally adapted AI assistant can close the language gap in financial education, improve capital market access for Azerbaijani citizens, and offer a replicable framework for other underrepresented language communities. More broadly, this project shows how generative AI can be designed to distribute its benefits equitably.

Awards Won:
Association for the Advancement of Artificial Intelligence: AAAI Student Memberships for each finalist that is part of the 1st, 2nd, and 3rd Prize Winning projects and 5 Honorable Mention winning projects (up to 3 students per project) (in-kind award / part of the 1st-3rd prize)