Prof. R. Wattenhofer

Bubble-Tea Market Games

In recent decades, the chain catering industry has expanded rapidly around the world. Take McDonald's as an example; every year, there are 1,000 new stores across the globe. In addition to traditional industry giants, some emerging food categories are also increasing. In China, 300,000 bubble-tea stores were opened in 2018. This craze has not only occurred in China but has gradually blossomed in East Asian countries such as Japan and South Korea.

It is essential to understand this chain catering enterprise market. How can we maximise our investment returns? As we all know, the development of the catering industry is inseparable from the impact of crowd gathering, and the scale of development is directly proportional to the level of economic growth. However, small cities have potential consumers who cannot be ignored. We build a market model according to the crazy bubble-tea industry and would like to study the behaviour in this market.

In this thesis, you are free to choose what you would like to study. There are multiple possible research directions.

- If you are interested in Algorithmic Game Theory, we may study the property of this model. Is it a finite potential game? Does this game have Nash Equilibria? What is the difference between congestion games and our new model?...

- If you are interested in algorithm design and programming, we may study efficient algorithms which can compute the best response strategy for players. It is also possible to use real market data to validate our model.

- If you are interested in market design or financial technologies, we may improve our model or design models for some other exciting markets!

Requirements: Prior knowledge in game theory, solid background in algorithm, or programming experience.

Interested? Please contact us for more details!

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