

Proposal

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Abstract

- 1 What part of phenomenon would you like to model?**
- 2 What are the principal types of agents involved in this phenomenon?**

Agent	Goal
Investor	these are the Agents in the Problem Statement
Pools	can be patches
Predictors	these function closures, not Turtles

- 3 What properties do these agents have?**

Agent	Property	Remarks
Investor	wealth	accumulated payout, allowing for tau
	favourite-predictor	tell Investor what course to follow
	alternative-predictor	switch if favourite not doing well
	payoffs	list of payouts, most recent first, before tau subtracted
	choices	list of choices made by turtle, most recent first
Pool	Total	cell3
	probability	cell6
Predictor	action	cell3
	history	cell6
	parameters	cell9

4 What actions (or behaviors) can these agents take?

Agent	Goal
Investor	Accumulate wealth
Pools	
Predictors	

5 If the agents have goals, what are their goals?

Agent	Goal
Investor	Accumulate wealth
Pools	
Predictors	

6 In what kind of environment do these agents operate?

7 How do these agents interact with this environment?

8 References

- [1] Inductive Reasoning and Bounded Rationality, W. Brian Arthur, The American Economic Review, Vol. 84, No. 2, Papers and Proceedings of the Hundred and Sixth Annual Meeting of the American Economic Association (May, 1994), pp. 406-411 Published by: American Economic Association <https://ocw.tudelft.nl/wp-content/uploads/ElFarolArtur1994.pdf>
- [2] The Kolkata Paise Restaurant Problem and Resource Utilization, Anindya-Sundar Chakrabarti, Bikas K. Chakrabarti, Arnab Chatterjee, and Manipushpak Mitra, New Journal of Physics. 12: 075033. <https://arxiv.org/pdf/0711.1639.pdf>
- [3] Kolkata Restaurant Problem as a generalised El Farol Bar Problem, Bikas K. Chakrabarti, in Econophysics of Markets and Business Networks, pages 239-246, Eds. A. Chatterjee and B. K. Chakrabarti, New Economic Windows Series, Springer, Milan (2007); <https://arxiv.org/abs/0705.2098>