Akira Namatame

Capsule Introduction

SNU CSE Distinguished Lecture Series

Prof. Namatame's PhD early research was in the area of decision making in uncertain and dynamic environments, and in dynamic economic games, publishing around 20 papers in these areas. In the early 1990s, he turned to intelligent systems, working extensively in connectivist learning and neural networks, resulting in a further 30 papers in significant conferences and journals.

In the late 1990s, Prof. Namatame combined these interests, emphasising evolutionary models of the interaction of societies of intelligent agents as models of collective economic and social behaviour. In his 1996 paper "Social Learning in a Society of Decentralized Agents", he formulated the issues that have guided much of his research in succeeding years, in some ways anticipating Wolpert's influential 1999 publications on the limits of collective intelligence. His seminal 1997 paper "Competitive Evolution in a Society of Self-interested Agents" introduced evolutionary intelligent agent systems as models of real-World socio-economic systems, and much of his subsequent research has pursued this theme.

It is for this work that Prof. Namatame has become best known, and he is now recognised as an international research leader in the application of agent and evolutionary modelling technologies to problems in economic and social research. To quote his 2006 article on Collective Intelligence and Evolution: "⋯ that selfish behaviour may not achieve full efficiency is ⋯ well known ... It is important to investigate the loss of collective welfare due to selfish and uncoordinated behavior ⋯ known as 'the price of anarchy'. Investigations ... have provided some measures for designing collective systems with robustness against selfish behaviour. Collective systems are based on an analogous assumption, that individuals are selfish optimizers, and we need methodologies so that the selfish behaviour of individuals need not degrade the system performance ⋯ Cultural interpretations of collective evolution assume that successful behavioural rules are spread by imitation or learning by the agents. [It] is very much at the forefront of the design of desired collectives in terms of efficiency, equity, and sustainability."

In the past ten years Prof. Namatame has given over 20 invited talks in these areas, as well as publishing nine books on multi-agent systems, collective systems and game theory. He is editor-in-chief of Springer's Journal of Economic Interaction and Coordination. In total, he has published more than 200 refereed scientific papers over a wide variety of fields..

Robert Ian McKay, DEC 2008