



THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Seminar

Of ants, urns and stochastic approximations

by

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College Park
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Date : 27 March, 2012 (Tue.)
Time : 4:00-5:00pm
Venue : Room 121 Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Ant-based algorithms are proposed for the binary bridge selection problem, and a number of issues concerning their convergence properties discussed. For the simplest algorithm, with bridges of equal length, we identify the range of parameter values which yield reinforcement learning -- All ants go on the same bridge! The presentation will emphasize connections with urn models and the theory of stochastic approximations. In the second half of the talk we touch on implementation issues (e.g., finite memory) and the case of bridges with unequal lengths.

Biography

Armand M. Makowski received the Licence en Sciences Mathematiques from the Universite Libre de Bruxelles in 1975, the M.S. degree in Engineering-Systems Science from U.C.L.A. in 1976 and the Ph.D. degree in Applied Mathematics from the University of Kentucky in 1981. In August 1981, he joined the faculty of the Electrical Engineering Department at the University of Maryland at College Park, where he is presently a Professor of Electrical and Computer Engineering.

He has held a joint appointment with the Institute for Systems Research since its establishment in 1985, and was its Associate Director for Research during 1995--1996. He is also a co-founder of and active participant in the Center for Satellite and Hybrid Communication Networks, a NASA center for the development and commercialization of space.

He has held visiting positions at the Technion (Israel), INRIA (France), IBM T.J. Watson Research Center (Hawthorne), AT&T Bell Laboratories (Murray Hill) and AT&T Research Labs (Florham Park). Armand Makowski was a C.R.B. Graduate Fellow of the Belgian-American Educational Foundation for the academic year 1975-76; he is also a 1984 recipient of the NSF Presidential Young Investigator Award.

**** ALL ARE WELCOME ****

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