

DE LA SALLE UNIVERSITY

DYNAMIC JOB SCHEDULING IN DISTRIBUTED
COMPUTING SYSTEM USING STOCHASTIC LEARNING AUTOMATA

A Thesis

Presented to the

Faculty of the Graduate Program
of the College of Computer Studies

DE LA SALLE UNIVERSITY

In Partial Fulfillment
of the Requirements for the Degree of
Master of Science in
Computer Science

BY

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(June 1992)

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Abstract

In a distributed Computing System (DCS) job can arrive randomly at each node, which can change the status of node constantly. Therefore jobs in DCS should be scheduled dynamically to meet the constraints of the system and to improve the system performance. For job scheduling accurate global information is impossible, an estimation can be made to schedule job to achieve near-optimal solution of the problem of job scheduling. For reliability scheduler should be placed on each node in the system.

This study will be focused on dynamic job scheduling in DCS using network of stochastic learning automata (SLA). SLA will be used as a decision maker in job scheduling. First an abstract model of DCS will be presented, then algorithm will be formulated for dynamic job scheduling. A mathematical proof of correctness will be conducted for the validation of the algorithm.



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