

56TH ANNUAL FACULTY RESEARCH LECTURE



featuring Distinguished Professor J.J. Garcia-Luna-Aceves

Research Directions on Communication Protocols for Intelligent Information Infrastructures

How communication protocols can be reimaged taking into account machine intelligence and memory, and outline research directions for the development of protocols for intelligent information infrastructures.

a link or the distance reported by maintain its current successor if it has any.

A less restrictive version of DIC is stating that at time t node i can choose as its new successor any neighbor $q \in N_i(t)$ for which $D_{jq}^i(t) + l_q^i(t) = \text{Min} \{D_{jx}^i(t) + l_x^i(t) | x \in N_i(t)\}$ and $D_{jq}^i(t) + l_q^i(t) \leq FD_j^i(t)$, where $FD_j^i(t) = D_j^{*i}(t)$. Note that this version of DIC behaves the same way as the previous versin as long as distances or link costs do not increase. On the other hand, when a node detects a distance or link-cost increase, the new version of DIC allows the node to change successors in some cases, while the previous version forces it to maintain the same successor in all cases.

CSC: Current Successor Condition. If at time $t > t'$ node i needs to change its current successor, it can choose as its new successor any neighbor $q \in N_i(t)$ for which $D_{jq}^i(t) + l_q^i(t) = \text{Min} \{D_{jx}^i(t) + l_x^i(t) | x \in N_i(t)\}$ and $l_q^i(t) = s, D_{jq}^i(t) \leq FD_j^i(t)$, where $FD_j^i(t) = D_j^{*i}(t)$. In each neighbor exists, then node i must maintain its current successor if it has any.

SNC: Successor Node Condition. If at time t node i needs to change its current successor, it can choose as its new successor any neighbor $q \in N_i(t)$ for which $D_{jq}^i(t) + l_q^i(t) = \text{Min}$

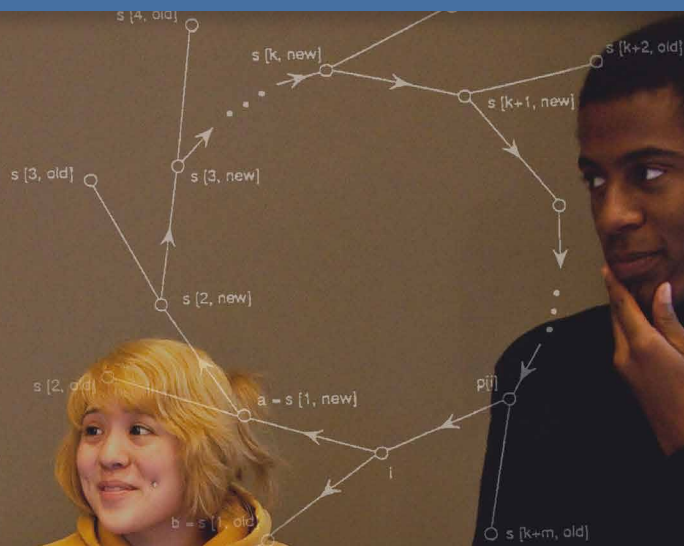


Fig. 1. Loop in G .

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May 11, 2023 • 7:00 PM
University Center, Bhojwani Dining Room

RSVP to Attend Livestream