AVITECH Seminar Series

Invitation

April 16
Distributed systems

Time: 15:00, Tuesday, April 16, 2019
Venue: E3-212, 144 Xuan Thuy, Cau Giay, Hanoi

Applications of coding theory in distributed storage systems and distributed computing

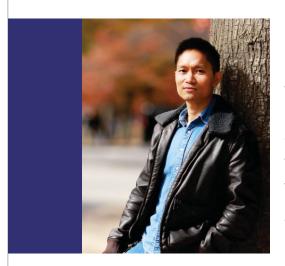In this talk, we discuss recently emerging problems in distributed storage systems and distributed computing where redundant data and redundant computation help to improve the performance of the systems. In the first part of the talk, I will overview different kinds of erasure codes (each code specifies a different method to create data redundancy) proposed in the literature and used in practise, in particular, Reed-Solomon codes (currently employed by Google, Facebook, Quantcast, Baidu, and Hadoop Distributed File System, to name a few), which I have been mainly working on. In the second part, I will introduce the problem of coded distributed computing and go through a few interesting results recently published in the literature. I will also mention briefly some opportunities for pursuing a Ph.D. degree in Australia and so, students who are interested are welcome to the talk.

Dr. Dau Son Hoang

RMIT University, Australia

https://www.rmit.edu.au/contact/staff-contacts /academic-staff/d/dau-dr-sonhoang

Dau Son Hoang is currently a lecturer in Computer Science and Information Technology at RMIT University, Australia. He got his bachelor's degree in Applied Mathematics & Informatics from Vietnam National University, Hanoi, in 2006, and his PhD's degree in Mathematics from Nanyang Technological University, Singapore, in 2012. He has been working on Coding Theory and Discrete Mathematics for more than ten years and has published 13 papers in reputable journals in these fields such as IEEE Transactions on Information Theory, IEEE/ACM Transactions on Networking, IEEE Transactions on Selected Areas in Communications, Algorithmica, and SIAM Journal on Discrete Mathematics. He is currently the chief investigator of a 3-year DECRA project on advanced coding techniques for fast failure recovery in distributed storage systems, awarded by the Australian Research Council in 2018.

Advanced Institute of Engineering and Technology (AVITECH)
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avitech.uet.vnu.edu.vn