



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

**SEMINAR ON DATA SCIENCE
AND MACHINE LEARNING**

**Map Synchronization:
from Matrices to Neural Networks**

By

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Abstract

This talk covers several recent works that share a common theme of optimizing maps among a network of objects or domains. In this context, maps take the form of matrices or neural networks. A network of maps differs from standard networks and graphs in the sense that there are regularization constraints derived from map composition. Such constraints offer powerful tools for map denoising and to propagate and aggregate information through the network. We will discuss algebraic and combinatorial theories of these constraints and applications in geometry reconstruction, 3D understanding, and scene synthesis.

Biography

Qixing Huang is an assistant professor of Computer Science at the University of Texas at Austin. He obtained his Ph.D. in Computer Science from Stanford University. He was a research assistant professor at Toyota Technological Institute in Chicago before joining UT Austin. Dr. Huang's research spans the fields of computer graphics, computer vision, and machine learning. His recent interests include representation learning for 3D perception and uncertainty quantification for geometry processing. Please refer to his homepage for more information: <https://www.cs.utexas.edu/~huangqx/>.

Date : 27 September 2021 (Monday)

Time : 10:30am

Zoom Meeting : <https://hkust.zoom.us/j/5616960008> (Passcode: hkust)

All are Welcome!