



May 8, 2024
Wednesday
15:00



Zoom Link: [URL](#)
Meeting ID: 864 8265 4954
Passcode: 005523

DEPARTMENT OF
MATHEMATICS

GENERAL SEMINAR

SPEAKER

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TITLE

Exploring Federated Learning through an Optimization Lens

ABSTRACT

Traditional machine learning systems, which require centralized data and computation, struggle to meet the demands of our rapidly evolving, interconnected world, where powerful smart devices produce data at an ever-increasing rate. In response, federated learning (FL) has emerged as a novel paradigm, establishing a distributed machine learning framework that leverages local data and computational power of the end devices. While the popularity of FL continues to rise in research and technology, it also introduces new challenges, such as communication overheads and privacy concerns. The objective of this talk is to offer an optimization perspective on the challenges faced by FL. We will explore recent advancements in FL, providing insights into their connections with classical optimization methods.