Optimal Transport Methods for Economic Models
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This course is focused on the computation of competitive equilibrium, which is at the core of surge pricing engines and allocation mechanisms. It will investigate diverse applications such as network congestion, surge pricing, and matching platforms. It provides a bridge between theory, empirics and computation and will introduce tools from economics, mathematical and computer science. Mathematical concepts (such as lattice programming, supermodularity, discrete convexity, Galois connections, etc.) will be taught while studying various economic models. The same is true of computational methods (such as 'tatonnement' algorithms, asynchronous parallel computation, mathematical programming under equilibrium constraints, etc.).