

Title: Graph Neural Networks

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Abstract: Machine learning research on graph-based structured data is booming, with thousands of papers released each year. The increased production does not only justify the interest in foundational research but shows the relevance in applications too, as graphs with their information entities and relational dependencies are everywhere.

The lecture will provide a comprehensive, incremental, introduction to graph neural networks and related processing by introducing operators and architectures at first. Then, the focus will shift to spatiotemporal graph processing, a framework where, in addition to relations in "space", we exploit those that emerge over the time dimension; within this setup prediction and imputation tasks will be touched within a deep relational processing.