Graphs in Machine Learning
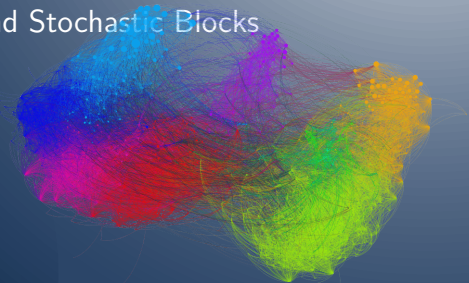
Random Graph Models

Erdős–Rényi, Barabási–Albert, and Stochastic Blocks

Michal Valko

Inria & ENS Paris-Saclay, MVA
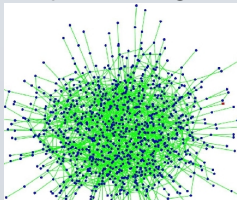
Partially based on material by: Andreas Krause,
Branislav Kveton, Michael Kearns

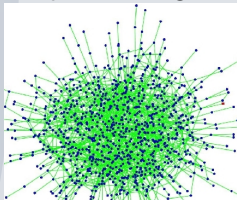# The in-between option: random graph models

Erdős-Rényi

independent edges
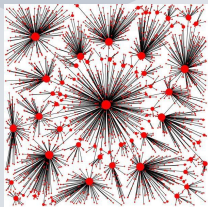
The in-between option: random graph models
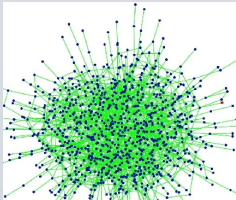
Erdős-Rényi
independent edges

Barabási-Albert
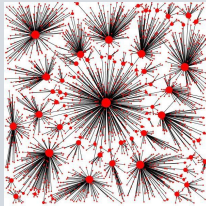preferential attachment

The in-between option: random graph models
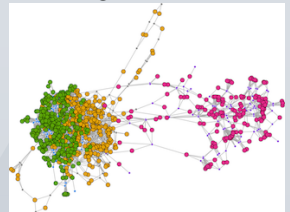
Erdős-Rényi
independent edges

Barabási-Albert
preferential attachment
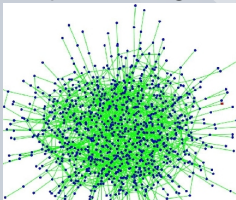

Stochastic Blocks
modeling communities

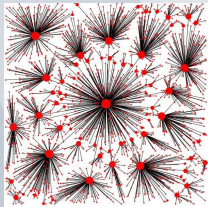# The in-between option: random graph models

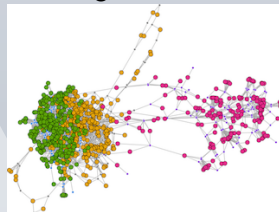**Erdős-Rényi**
independent edges

Barabási-Albert
preferential attachment

Stochastic Blocks
modeling communities

Watts-Strogatz, Chung-Lu, Fiedler, ...
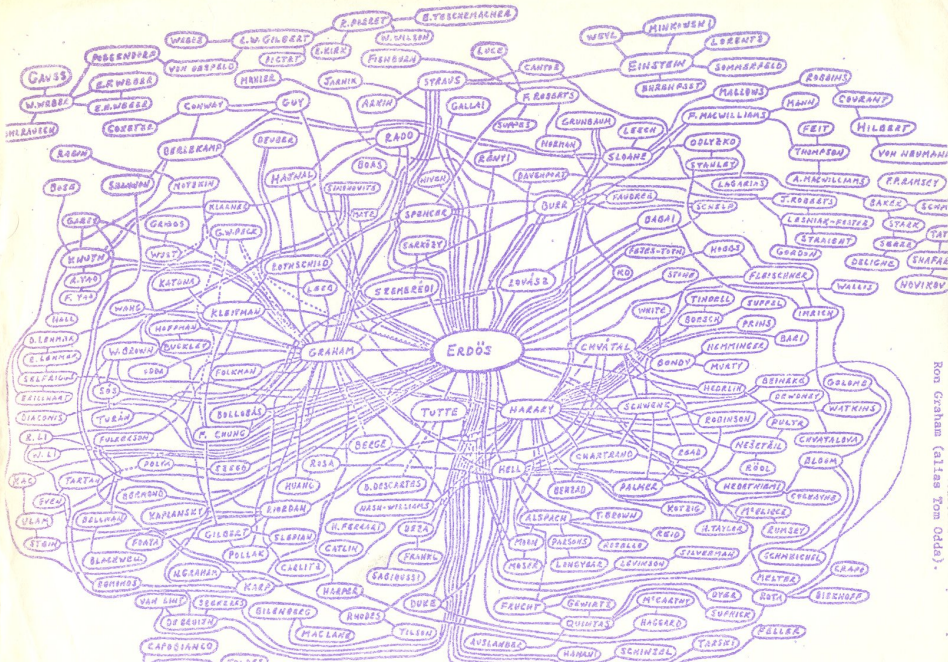
Ron Graham (alias Tom Odda).

Erdős number project

- http://www.oakland.edu/enp/ **try it!**

Erdős number project
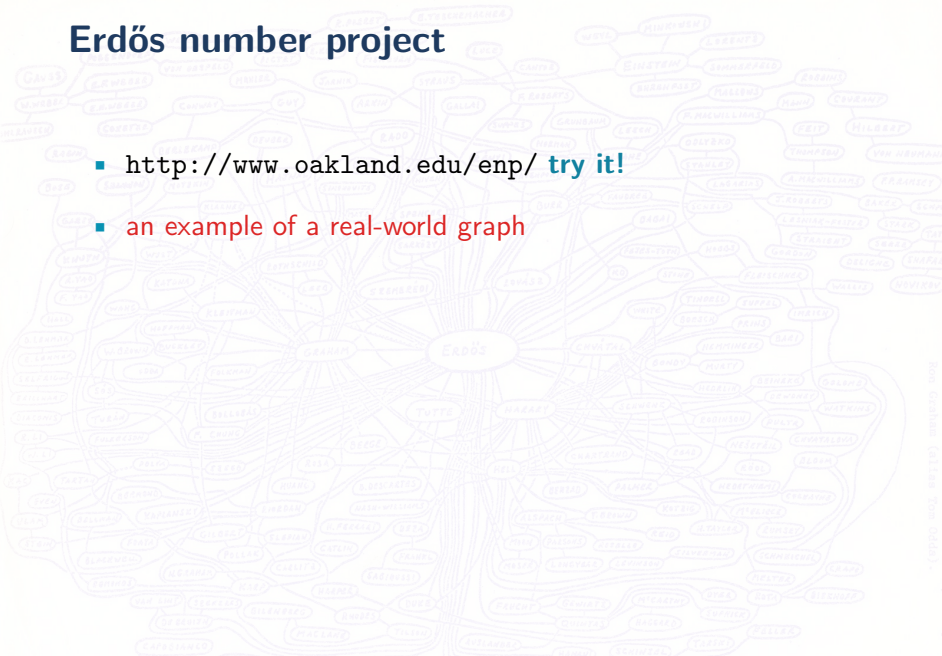
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- an example of a real-world graph

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- heavy tail

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https://misovalko.github.io/mva-ml-graphs.html