Talk 5: Degree sequence in preferential attachment trees

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Reference material

[Roc]: Sections 3.2.1, 3.2.2 and 3.2.4

Goal

The goal is to study the degree sequence of random graphs built by preferential attachment using concentration inequalities involving martingales.

Content

- Azuma-Hoeffding inequality (Theorem 3.2.1)

- Mc Diarmid's inequality (Theorem 3.2.9)

- Definition of a preferential attachment tree (Definition 1.2.3)

- Asymptotics of the degree sequence of preferential attachment graphs (Claim 3.2.21, proved in Sec. 3.2.4)

References

[Roc] Sébastien Roch. Modern discrete probability an essential toolkit. https://people.math.wisc.edu/~roch/mdp/roch-mdp-full.pdf.