연세대학교 수학계산학부

YONSEI
Math-CSE Colloquium

Majority dynamics on sparse random graphs (Appendix: The book (신의 책))

김정한 교수
KIAS

Majority dynamics on a graph G is a deterministic process such that every vertex updates its ±1- assignment according to the majority assignment on its neighbor simultaneously at each step. Benjamini, Chan, O'Donnell, Tamuz and Tan conjectured that, in the Erdős–Rényi random graph G (n, p), the random initial ±1-assignment converges to a 99%-agreement with high probability whenever $p = \omega(1/n)$.

This conjecture was first confirmed for for $p \geq \lambda n^{-1/2}$ for a large constant by Fountoulakis, Kang and Makai. Although this result has been reproved recently by Tran and Vu and by Berkowitz and Devlin, it was unknown whether the conjecture holds for $p < \lambda n^{-1/2}$. We break this $\Omega(n^{-1/2})$-barrier by proving the conjecture for sparser random graphs G (n, p), where $\lambda' n^{-3/5} \log n \leq p \leq \lambda n^{-1/2}$ with a large constant $\lambda' > 0$.

2024.03.14. (목) 17:00
Sci Building #225

주최 : 4단계 BK21 수리과학 및 계산 교육연구단 (연세대학교 수학계산학부)

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**강연 세부사항은 학과 홈페이지를 참조하시기 바랍니다.

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