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Curriculum Vitae
Fall 2023

ROBERT WINSLOW

Personal Data

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Citizenship: US

Major Fields of Concentration

Machine Learning, Macroeconomics

Education

Degree	*Field*	*Institution*	*Year*
PhD	Economics	University of Minnesota (expected)	2024
BS	Mathematics	University of Kansas	2016

Dissertation

Title: TBD
Dissertation Advisor(s): Professor Fatih Guvenen
Expected Completion: Summer 2024

References

Professor Fatih Guvenen	(612) 625-0767 guvenen@umn.edu	Department of Economics University of Minnesota 4-101 Hanson Hall 1925 South Fourth Street Minneapolis, Minnesota 55455
Professor Loukas Karbarbounis	(612) 625-7504 loukas@umn.edu	
Professor Thomas J. Holmes	(612) 625-4512 holmes@umn.edu	
Dr. Simran Sahi	sahix001@umn.edu	

Honors and Awards

2022	*Winner*, 2022 Minnesota Big Data Institute (MEBDI) Machine Learning Competition, University of Minnesota, Minneapolis, Minnesota
2021 - 2023	*Distinguished Instructor*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Received the award three times.
2017 - 2019	*Distinguished Teaching Assistant*, Department of Economics, University of Minnesota, Minnesota. Received the award four times.

Teaching Experience

Summer 2019 - present	*Instructor*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Taught *Intermediate Macroeconomics*.
2017 - 2019	*Teaching Assistant*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Led recitations for *Principles of Microeconomics* and *Principles of Macroeconomics*.

Research Experience

Summer 2015	*Math Research Experience for Undergraduates (REU)*, West Virginia University, Morgantown, West Virginia. Researched combinatorics under the supervision of John Goldwasser and Kevin G Milans.

Papers

Almeter, Jordan, Samet Demircan, Andrew Kallmeyer, Kevin G. Milans and R.M. Winslow, "Graph 2-Rankings," *Graphs and Combinatorics* 35 (1), 2019: 91-102. Presented at the 2015 Miami University Annual Mathematics Conference, September 2015.Miami University, Oxford, Ohio.

Computer Skills

Python, JavaScript, Java, C++, QGIS

Languages

English (native)

Abstract(s)

Almeter, Jordan, Samet Demircan, Andrew Kallmeyer, Kevin G. Milans and R.M. Winslow, "Graph 2-Rankings,"

A *2-ranking* of a graph G is an ordered partition of the vertices of G into independent sets $V_1,\ldots,V_t$ such that for $i<j$, the subgraph of G induced by $V_i \bigcup V_j$ is a star forest in which each vertex in V_i has degree at most 1. A 2-ranking is intermediate in strength between a star coloring and a distance-2 coloring. The *2-ranking number* of G, denoted $\chi_2(G)$, is the minimum number of parts needed for a 2-ranking.

For the d-dimensional cube Q_d, we prove that $\chi_2(Q_d)=d+1$. As a corollary, we improve the upper bound on the star chromatic number of products of cycles when each cycle has length divisible by 4.

Let $\chi_2'(G)=\chi_2(L(G))$, where $L(G)$ is the line graph of G; equivalently, $\chi_2'(G)$ is the minimum t such

that there is an ordered partition of $E(G)$ into t matchings $M_1,\ldots,M_t$ such that for each j, the matching M_j is induced in the subgraph of G with edge set $M_1 \bigcup \ldots \bigcup M_j$. We show that $\chi_2'(K_{m,n}) = nH_m$ when $m!$ divides n, where $K_{m,n}$ is the complete bipartite graph with parts of sizes m and n, and H_m is the harmonic sum $1+\ldots+\frac{1}{m}$. We also prove that $\chi_2(G) \leq 7$ when G is subcubic and show the existence of a graph G with maximum degree k and $\chi_2(G) \geq \Omega(k^2/\log(k))$.