CURRICULUM VITAE NATASHA KOMAROV

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EDUCATION

Dartmouth College

Ph.D., Mathematics July 2013

Advisor: Peter Winkler

Thesis: Capture Time in Variants of Cops & Robbers Games on Graphs

Master of Arts, Mathematics June 2010

Carnegie Mellon University August 2008

Bachelor of Science, Computational Finance

University Honors, College Honors, Andrew Carnegie Society Scholar

TEACHING EXPERIENCE

Visiting Assistant Professor, *Carnegie Mellon University*

21-301: Combinatorics Fall 2014, Fall 2013
21-470: Topics in Analysis: Mathematical Finance Summer 2014
21-110: Recreational Problem Solving Spring 2014
21-499: Undergraduate Research in Graph Theory Fall 2013

Designed and implemented courses. In 21-499, advised several undergraduates and led them in research concerning pursuit games on graphs.

Instructor, *Dartmouth College*

Math 20: Discrete Probability Summer 2011
Math 8: Calculus of Functions of One and Several Variables Winter 2011

Designed and implemented courses. Created an instant feedback web application for Math 20 course. Initiated the teaching of Matlab programming to Math 20 students.

Teaching Assistant, *Dartmouth College*

Math 17: Introduction to Math Beyond Calculus: The Art of Counting Winter 2013
Math 8: Calculus of Functions of One and Several Variables Winter 2010
Math 12: Calculus Plus Fall 2009
Math 3: Introduction to Calculus Winter 2009
Math 3: Introduction to Calculus Fall 2008

Monitored three tutorial sessions weekly, assisting students with homework and projects. Also graded exams, and provided additional assistance as requested.

Teaching Assistant, *Carnegie Mellon University*

21-259: Calculus in Three Dimensions Fall 2007
21-270: Introduction to Mathematical Finance Spring 2007
21-127: Concepts of Mathematics Spring 2006

Designed and implemented two recitation sessions a week as a supplement to regular lectures. Held office hours several times a week, and graded exams and homework.

PUBLICATIONS

On the number of 5-cycles in a tournament	submitted, 2014
Containment: A Variation of Cops and Robbers	submitted, 2014
Capturing the Drunk Robber on a Graph	Electronic Journal of Combinatorics **21** (3), 2014.
Hunter vs. Mole	Pre-print, 2013
Cop vs. Gambler	submitted, 2013

SELECTED PRESENTATIONS

Colloquium, *Providence College*   Jan. 2014
    Hunter and Mole

Colloquium, *Bard College*   Nov. 2013
    Hunter and Mole

Undergraduate Colloquium, *Carnegie Mellon University*   November 2013
    Hunter and Mole

Algorithms-Combinatorics-Optimization Seminar, *Carnegie Mellon University*   Sept. 2013
    Cop vs. Gambler

PhD Thesis Defense, *Dartmouth College*   July 2013
    Capture Time in Variants of Cops & Robbers Games

GRASCan Workshop, *Ryerson University*   April 2013
    Capturing the Drunk Robber on a Graph

Theory Reading Group, *Dartmouth College*   February 2013
    Capture Time in the Cop vs. Drunk Game

Graduate Student Seminar, *Dartmouth College*
    Cops & Drunks: A Random Walk Variation on Cops & Robbers   February 2012
    How to Catch a Thief   August 2010
    An Application of Ramsey's Theorem: Generalizing the Happy Ending Problem   August 2009

Dartmouth Math Society, *Dartmouth College*   May 2011
    A Survey of Results About Random Walks

HONORS AND AWARDS

Dartmouth College

    Dartmouth College Graduate Fellowship   Fall 2008 - Summer 2013

Carnegie Mellon University

    CMU Institutional & Presidential Scholarships   Fall 2004 - Spring 2008
    Andrew Carnegie Society Scholarship   Spring 2008

PROFESSIONAL SERVICE & DEVELOPMENT

2nd Annual GRASCan Workshop, *Ryerson University*   April 2013
Lattice Models & Combinatorics; Discrete Lattice Models, *MSRI*   January 2012
Johns Hopkins Center for Talented Youth Odyssey Series, *Dartmouth College* Summer 2011
    Helped lead three sessions of explorations of Penrose Tilings for groups of seventh through ninth grade students and their parents.

Dartmouth Math Camp, *Dartmouth College*   Summer 2010
    Designed and ran two one-week workshops for local high school students.

Dartmouth Teaching Seminar, *Dartmouth College*   Summer 2010
    Participated in a thorough eight-week pedagogical seminar, which considered the art and science of teaching from multiple angles. Broadened personal understanding of what it means to learn mathematics, and received practice with and feedback on a number of different teaching methods.

PROGRAMMING SKILLS

Mathematical Software: LaTeX, Matlab, Mathematica
Other Programming Knowledge: SQL, Java, Javascript, HTML/CSS

REFERENCES

Peter Winkler	Richard Nowakowski	John Mackey
Dept. of Mathematics	Dept. of Math. & Stats.	Dept. of Mathematics
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