

Ian G. Ludden

CONTACT INFORMATION	Department of Computer Science University of Illinois Urbana-Champaign 201 N Goodwin Ave Urbana, IL 61801	813-410-1021 iludden2@illinois.edu
RESEARCH INTERESTS	Algorithmic game theory, graph theory, combinatorial optimization	
EDUCATION	University of Illinois Urbana-Champaign (Illinois) , Urbana, IL Ph.D., Computer Science, <i>Expected:</i> May 2023, GPA 4.00 <ul style="list-style-type: none">• Advisor: Sheldon H. Jacobson, Ph.D. Rose-Hulman Institute of Technology (RHIT) , Terre Haute, IN B.S., Computer Engineering and Mathematics (Double Major), Nov 2016 <ul style="list-style-type: none">• <i>Summa Cum Laude</i>, GPA 4.00	
RESEARCH EXPERIENCE	Research Assistant Department of Computer Science, University of Illinois Urbana-Champaign Supervisor: Sheldon H. Jacobson, Ph.D.	Summers 2018, 2019
REFEREED JOURNAL PUBLICATIONS	<ol style="list-style-type: none">1. Pavlik, J.A., I.G. Ludden, and S.H. Jacobson (2021). “SARS-CoV-2 aerosol risk models for the Airplane Seating Assignment Problem.” <i>Journal of Air Transport Management</i>, 99.2. Pavlik, J.A., I.G. Ludden, S.H. Jacobson, and E.C. Sewell (2021). “Airplane Seating Assignment Problem.” <i>Service Science</i>, 13(1):1-52.3. Ludden, I.G., A. Khatibi, D.M. King, and S.H. Jacobson (2020). “Models for Generating NCAA Men’s Basketball Tournament Bracket Pools.” <i>Journal of Quantitative Analysis in Sports</i>, 16(1):1-15.	
PAPERS IN PREPARATION	<ol style="list-style-type: none">1. Ludden, I.G., Swamy, R., King, D.M., and Jacobson, S.H. (2022). “A Bisection Protocol for Political Redistricting.” <i>In revision</i>.2. Ludden, I.G., Jokela, J.A., and Jacobson, S.H. (2022). “Comparing 2020 & 2021 COVID-19 and non-COVID-19 Deaths Using 2015-2019 Pre-pandemic Deaths as a Benchmark.” <i>In peer review</i>.3. Ludden, I.G., King, D.M., and Jacobson, S.H. (2022). “3D Geo-graphs: Efficient Flip Verification for the Spherical Zoning Problem.” <i>Working paper</i>.	
HONORS & AWARDS	NSF Graduate Research Fellow Mavis Future Faculty Fellow, Grainger College of Engineering Student Awards — Illinois <ul style="list-style-type: none">• Finalist – <i>Research Live!</i>• Saburo Muroga Endowed Fellowship	2019–Present 2020–2021 Spring 2022 2017–2018

	Teaching Awards — Illinois	
	• Outstanding Teaching Assistant–Lifetime	Spring 2022
	• Outstanding Teaching Assistant	Fall 2019
	• CITL List of Teachers Ranked as Excellent	Fall 2019
	• CITL List of Teachers Ranked as Excellent	Spring 2018
	• CITL List of Teachers Ranked as Excellent	Fall 2017
	Student Awards — RHIT	
	• Clarence P. Sousley Award for Outstanding Mathematics Senior	May 2017
	• Heminway Gold Medal for Best GPA in Class	May 2017
	• Henry Turner Eddy Award in Applied Mathematics	May 2016
	• Clarence C. Knipmeyer Award in Computer Engineering	May 2016
PRESENTATIONS	INFORMS Computing Society Conference (ICS)	Jan 2022
	• Session MB4 – Network Applications	
	• “Analyzing and Modeling the Define-Combine Procedure for Political Redistricting.”	
	INFORMS Annual Meeting	Oct 2021
	• Chair: Session WE25 – Combinatorial Optimization	
	• “3-D Geo-graphs: Efficient Flip Verification for 3-D Graph Partitioning.”	
	INFORMS Annual Meeting	Oct 2019
	• Session WC43 – Political Redistricting	
	• “A Bisection Protocol for Political Redistricting.”	
TEACHING EXPERIENCE	Course Aide	Fall 2019–Present
	ENG 598 TL - Teaching and Leadership (TA Training Seminar) Grainger College of Engineering, Illinois	
	Teaching Assistant	Spring 2021
	CS 482/IE 413 - Simulation Instructor: Dr. Sheldon H. Jacobson Department of Computer Science, Illinois	
	Instructor	Summer 2020
	CS 173 - Discrete Structures (AL1) Department of Computer Science, Illinois	
	Teaching Assistant	Spring 2020
	CS 482/IE 413 - Simulation Instructor: Dr. Sheldon H. Jacobson Department of Computer Science, Illinois	
	Teaching Assistant	Fall 2019
	CS 374 - Algorithms & Models of Computation Instructor: Dr. Jeff Erickson Department of Computer Science, Illinois	
	Teaching Assistant	Spring 2019
	CS 482/IE 413 - Simulation Instructor: Dr. Sheldon H. Jacobson Department of Computer Science, Illinois	
	Teaching Assistant	Fall 2018
	CS 481/IE 410 - Stochastic Processes Instructor: Dr. Sheldon H. Jacobson Department of Computer Science, Illinois	

	Teaching Assistant	Spring 2018
	CS 173 - Discrete Structures	
	Instructor: Dr. Margaret M. Fleck	
	Department of Computer Science, Illinois	
	Teaching Assistant	Fall 2017
	CS 173 - Discrete Structures	
	Instructor: Dr. Madhusudan Parthasarathy	
	Department of Computer Science, Illinois	
PROFESSIONAL EXPERIENCE	Software Engineer - Integration Platform Development	Jan 2017 – Aug 2017
	PilotFish Technology	
	Tampa, FL	
	Computer Science Intern - Communication System Modeling	Summer 2016
	LGS Innovations	
	Tampa, FL	
	Software Engineer Intern - Embedded Development for Watches	Summer 2015
	Garmin International	
	Olathe, KS	
	Programming Intern - Dispatch Application Development	Summer 2014
	FitzMark, Inc.	
	Indianapolis, IN	
SERVICE	CRA-E Graduate Fellow	June 2020 – Present
	<ul style="list-style-type: none"> Manage, write, and edit Undergraduate Research Highlights 	
	Community Computer Lab Volunteer	July 2021 – Present
CONSULTING	Project PRE.CISE	Summer 2021
	<ul style="list-style-type: none"> Coordinated eight-week program for NSF REU Supplement students to build community and learn about graduate school and research careers from panels 	