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CONTACT INFORMATION	Department of Industrial and Systems Engineering Herbert Wertheim College of Engineering 303 Weil Hall, P.O. Box 116595 Gainesville, FL 32611-6595, USA	<i>Website</i> akazachk.github.io <i>Email</i> akazachkov@ufl.edu <i>Office</i> 401B Weil Hall <i>Phone</i> +1.352.273.4902
RESEARCH INTERESTS	<b>Discrete optimization</b> , including theoretical, methodological, and applied aspects, with an emphasis on developing better <i>cutting plane</i> techniques and open-source computational contributions <b>Computational economics</b> , particularly on the fair allocation of indivisible resources and fair mechanism design <b>Social good applications</b> , such as humanitarian logistics and donation distribution	
ACADEMIC POSITIONS	<b>University of Florida</b> , Department of Industrial and Systems Engineering, Gainesville, FL, USA Assistant Director, Center for Applied Optimization Assistant Professor Courtesy Assistant Professor	<i>September 2021 – Present</i> <i>January 2021 – Present</i> <i>March 2020 – December 2020</i>
	<b>Polytechnique Montréal</b> , Department of Mathematics and Industrial Engineering, Montréal, QC, Canada Postdoctoral Researcher under Andrea Lodi	<i>May 2018 – December 2020</i>
EDUCATION	<b>Carnegie Mellon University</b> , Tepper School of Business, Pittsburgh, PA, USA  Ph.D. in Algorithms, Combinatorics, and Optimization under Egon Balas Dissertation: <i>Non-Recursive Cut Generation</i>  M.S. in Algorithms, Combinatorics, and Optimization	<i>May 2018</i>  <i>May 2013</i>
	<b>Cornell University</b> , College of Engineering, Ithaca, NY, USA  B.S. in Operations Research and Engineering with Honors, <i>Magna Cum Laude</i>	<i>May 2011</i>
JOURNAL PUBLICATIONS	[1] A.M. Kazachkov, S. Nadarajah, E. Balas, and F. Margot. “Partial Hyperplane Activation for Generalized Intersection Cuts”, <i>Mathematical Programming Computation</i> , 12(1), 69–107, 2020. [2] S.S. Dey, A.M. Kazachkov, A. Lodi, and G. Muñoz. “Cutting Plane Generation Through Sparse Principal Component Analysis”, <i>SIAM Journal on Optimization</i> , 32(2), 1319–1343, 2022.	
CONFERENCE PUBLICATIONS	[3] P.I. Frazier and A.M. Kazachkov. “Guessing Preferences: A New Approach to Multi-Attribute Ranking and Selection”, <i>Winter Simulation Conference</i> , 2011. [4] J. Karp, A.M. Kazachkov, and A.D. Procaccia. “Envy-Free Division of Sellable Goods”, <i>AAAI Conference on Artificial Intelligence</i> , 2014. [5] J.P. Dickerson, A.M. Kazachkov, A.D. Procaccia, and T. Sandholm. “Small Representations of Big Kidney Exchange Graphs”, <i>AAAI Conference on Artificial Intelligence</i> , 2017. Also appears at: <ul style="list-style-type: none"><li>• Workshop on AI and OR for Social Good (AIORSocGood), AAAI 2017</li><li>• Exploring Beyond the Worst Case in Computational Social Choice (EXPLORE) Workshop, AAMAS 2016</li></ul> [6] G. Benadè, A.M. Kazachkov, A.D. Procaccia, and C.-A. Psomas. “How to Make Envy Vanish Over Time”, <i>ACM Conference on Economics and Computation</i> , 2018. [7] A.M. Kazachkov and S. Vardi. “On Tanking and Competitive Balance”, <i>Conference on Algorithmic Decision Theory</i> , 2019. (Peer-reviewed submission to non-proceedings track.)	

	[8] A.M. Kazachkov, P. Le Bodic, S. Sankaranarayanan. "An Abstract Model for Branch-and-Cut", <i>Conference on Integer Programming and Combinatorial Optimization</i> , 2022.	
	[9] A.M. Kazachkov and E. Balas. "Monoidal Strengthening of Simple $\mathcal{V}$ -Polyhedral Disjunctive Cuts". <i>Conference on Integer Programming and Combinatorial Optimization</i> , 2023.	
OTHER PUBLICATIONS	[10] A.M. Kazachkov. "Research Highlight: $\mathcal{V}$ -Polyhedral Disjunctive Cuts". <i>INFORMS Computing Society Newsletter</i> , Spring 2019.	
	[11] A.M. Kazachkov and E.B. Khalil. "Discrete Optimization Talks (DOTs), One Year Later", <i>IFORS News</i> , 16:1, March 2021. ISSN 2223-4373.	
	[12] A.M. Kazachkov and F. Serrano. "Monoidal Cut Strengthening". <i>Encyclopedia of Optimization</i> . 2023+.	
UNDER REVIEW	[13] E. Balas and A.M. Kazachkov. " $\mathcal{V}$ -Polyhedral Disjunctive Cuts". Submitted.	
	[14] A.M. Kazachkov, P. Le Bodic, S. Sankaranarayanan. "An Abstract Model for Branch-and-Cut". Submitted. (Extension of IPCO 2022 version.)	
	[15] G. Benadè, A.M. Kazachkov, A.D. Procaccia, A. Psomas, D. Zeng. "Fair and Efficient Online Allocations". Submitted. (Extension of EC 2018 paper.)	
WORKING PAPERS	[16] A.M. Kazachkov and S. Vardi. "On Tanking and Competitive Balance: Reconciling Conflicting Incentives". (Extension of ADT 2019 version.)	
	[17] A.M. Kazachkov and A.P. Vaidya. "To Cut or Not to Cut: That is the Question".	
	[18] A.M. Kazachkov and E. Balas. "Monoidal Strengthening of Simple $\mathcal{V}$ -Polyhedral Disjunctive Cuts". (Extension of IPCO 2023 version.)	
SELECTED HONORS AND AWARDS	GERAD Postdoctoral Fellowship	2019
	INFORMS Computing Society Student Paper Award for " $\mathcal{V}$ -Polyhedral Disjunctive Cuts"	2018
	Honorable Mention Poster Prize at the Mixed Integer Programming Workshop 2016	2016
	Most Visionary Paper Award for "Small Representations of Big Kidney Exchange Graphs" (with Dickerson, Procaccia, and Sandholm) at the EXPLORE Workshop at AAMAS 2016	2016
	Best Poster Prize at the Mixed Integer Programming Workshop 2014	2014
	Zoltners Fellowship	2011–2013
	William Larimer Mellon Fellowship	2011–2016
	Omega Rho Honor Society	2010
	Engineering Global Fellow	2009
	Robert C. Byrd Scholarship	2007
	The New York State Society of Professional Engineers Scholarship	2007
	Toshiba ExploraVision National Competition Honorable Mention	2004
FUNDING	UF Informatics Institute SEED Fund, "A Fair and Efficient System for Allocating Food Bank Resources Through a Joint Prediction and Discrete Optimization Framework", \$30,000, PI, Sep 2022 – Sep 2023	
STUDENTS	<b>Master's Thesis Committee Chair</b>	<i>Defense Year</i>
	Ambareesh Vaidya, University of Florida, Industrial and Systems Engineering	2022
	Cam Maddalone, University of Florida, Industrial and Systems Engineering	2021
	<b>Undergraduate Thesis Committee Chair</b>	
	Margarita Castañeda, University of Florida, Industrial and Systems Engineering	2022

### Doctoral Committee Member

Luke Fina, University of Florida, Mechanical & Aerospace Engineering	TBD
Victoria G. Crawford, University of Florida, Computer & Information Science & Engineering	2022
Maya Aghaee, University of Florida, Mathematics	2022

### Undergraduate Research (No Thesis)

Jason Luo, SURF (Summer Undergraduate Research at Florida) Participant, Texas A&M	Time Period 2021–2022
⇒ Now a PhD student at MIT in Civil and Environmental Engineering	

### TEACHING EXPERIENCE

#### Instructor

• EIN 6905 Data Analytics for Social Good, graduate elective, colisted with ESI 4611, UF ISE	Spring 2023
• ESI 4611 Advanced Data Analytics, undergraduate elective, UF ISE	Spring 2023
• ESI 6448 Discrete Optimization Theory, graduate elective, UF ISE	Fall 2022
• EIN 6905 Data Analytics for Social Good, graduate elective, colisted with ESI 4611, UF ISE	Spring 2022
• ESI 4611 Advanced Data Analytics, undergraduate elective, UF ISE	Spring 2022
• ESI 6417 Linear Programming & Network Optimization, Ph.D. core course, UF ISE	Spring 2021
• 70-460 Mathematical Models for Consulting, undergraduate business elective, CMU	Fall 2014

#### Training

• First-Year Faculty Teaching Academy, UF	2021
• Future Faculty Program, CMU	2018

#### Teaching Assistant

• 47-830 Integer Programming, Ph.D. core course, CMU	2015, 2017
• 47-831 Advanced Integer Programming, Ph.D. core course, CMU	2013, 2015, 2017
• 47-861 Convex Polyhedra, Ph.D. elective, CMU	2016
• 47-835 Graph Theory, Ph.D. core course, CMU	2012, 2015
• 47-836 Networks and Matchings, Ph.D. core course, CMU	2015
• 21-366 Combinatorial Optimization, mathematics undergraduate elective, CMU	2014
• 45-750 Probability and Statistics, MBA core course, CMU	2013
• 45-751 Optimization, Recitation Leader, MBA core course, CMU	2012–2013
• Multiple core undergraduate courses, Cornell ORIE	2010

Facilitator for Academic Excellence Workshop, Calculus I for Engineers, Cornell	2008
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### UPCOMING TALKS

INFORMS 2023, Phoenix, AZ, USA, October 2023, TBD

IPCO 2023, Madison, Wisconsin, USA, June 2023, Presentation of Accepted Paper, "Monoidal Strengthening of Simple  $\mathcal{V}$ -Polyhedral Disjunctive Cuts"

### TALKS

Aussois Combinatorial Optimization Workshop 2023, Aussois, France, January 2023, Short Presentation, "Challenges and Experiments with Monoidal Strengthening of  $\mathcal{V}$ -Polyhedral Disjunctive Cuts"

Workshop on Data Science for Real-Time Decision Making, Montréal, QC, Canada, August 16, 2022, Invited Talk, "An Abstract Model for Branch-and-Cut"

IPCO 2022, Eindhoven, The Netherlands, June 2022, Presentation of Accepted Paper, "An Abstract Model for Branch-and-Cut"

UF SIAM Gators Seminar, Virtual, March 22, 2022, Invited Talk, "Strengthening  $\mathcal{V}$ -Polyhedral Disjunctive Cuts"

IOS 2022, Clemson, SC, USA, March 2022, Invited Talk, "An Abstract Model for Branch-and-Cut"

ICS 2022, Tampa, FL, USA, January 2022, "Strengthening  $\mathcal{V}$ -Polyhedral Disjunctive Cuts"

INFORMS 2021, Anaheim, CA, USA, October 2021, Invited Talk, "An Abstract Branch-and-Cut Model"

Workshop on Cutting Planes, Virginia Tech, Blacksburg, VA, USA, August 20, 2021, Invited Tutorial, "Towards More Practical Stronger Cutting Plane Methods"

MIP 2021, Virtual (recording available), May 2021, Invited Talk, "Strengthening  $\mathcal{V}$ -Polyhedral Disjunctive Cuts"

UF Seminar on Applied and Numerical Analysis, Virtual, April 21, 2021, Invited Talk, "Cutting Plane Generation Through Sparse Principal Component Analysis"

GERAD Seminar: Séminaire “Un chercheur du GERAD vous parle!”, Virtual (recording available), February 10, 2021, Invited Talk, “Towards More Practical Stronger Cutting Plane Methods”

INFORMS 2020, Virtual, November 2020, Invited Talk, “Learning About Unit Commitment Problems”

University of Florida, Industrial and Systems Engineering, Gainesville, FL, USA, February 27, 2020, Invited Talk, “Better and Fairer Decisions: New Frontiers in Cutting Planes and Mechanism Design”

Concordia University, Mechanical, Aerospace, and Industrial Engineering, Montréal, QC, Canada, February 20, 2020, Invited Talk, “Better and Fairer Decisions: New Frontiers in Cutting Planes and Mechanism Design”

Arizona State University, Tempe, AZ, USA, February 18, 2020, Invited Talk, “Better and Fairer Decisions: New Frontiers in Cutting Planes and Mechanism Design”

University of Pittsburgh, Industrial Engineering, Pittsburgh, PA, USA, January 29, 2020, Invited Talk, “Better and Fairer Decisions: New Frontiers in Cutting Planes and Mechanism Design”

Bucknell University, Lewisburg, PA, USA, December 9, 2019, Invited Talk, “Better and Fairer Decisions: New Frontiers in Cutting Planes and Mechanism Design”

University of Waterloo, Combinatorics & Optimization, Waterloo, ON, Canada, November 22, 2019, Invited Talk, “Disjunctive Cuts Through the  $\mathcal{V}$ -Polyhedral Lens”

University of Toronto, Mechanical & Industrial Engineering OR Seminar, Toronto, ON, Canada, November 21, 2019, Invited Talk, “Disjunctive Cuts Through the  $\mathcal{V}$ -Polyhedral Lens”

Conference on Data Science and Optimization, Fields Institute, Toronto, ON, Canada, November 20, 2019, Invited Talk, “Sparse Cutting Planes for Nonconvex Quadratically-Constrained Quadratic Programs”

Egon Balas Memorial Symposium, Pittsburgh, PA, USA, October 27, 2019, Invited Talk (recording available), “Disjunctive Cuts in the 21st Century”

Conference on Algorithmic Decision Theory (ADT) 2019, Durham, NC, USA, Presentation of Accepted Paper, “On Tanking and Competitive Balance”

INFORMS 2019, Seattle, WA, USA, Invited Talk, “On Tanking and Competitive Balance”

INFORMS 2019, Seattle, WA, USA, Invited Talk, “Sparse Cutting Planes for Nonconvex Quadratically-Constrained Quadratic Programs”

MINLP 2019, Montréal, QC, Canada, “Sparse Cutting Planes for Nonconvex Quadratically-Constrained Quadratic Programs”

Universidad Adolfo Ibáñez, Santiago, Chile, September 24, 2019, Invited Talk, “ $\mathcal{V}$ -Polyhedral Disjunctive Cuts”

First Discrete Optimization Day at Universidad de O’Higgins, Rancagua, Chile, September 23, 2019, Invited Talk, “Sparse Cutting Planes for Nonconvex Quadratically-Constrained Quadratic Programs”

Aussois Combinatorial Optimization Workshop 2019, Aussois, France, Short Presentation, “A Correspondence Between  $\mathcal{V}$ -Polyhedral Cuts and Lift-and-Project Cuts”

INFORMS 2018, Phoenix, AZ, USA, Invited Talk, “ $\mathcal{V}$ -Polyhedral Disjunctive Cuts”

Cornell Young Researchers Workshop, Ithaca, NY, USA, October 2018, Invited Talk, “ $\mathcal{V}$ -Polyhedral Disjunctive Cuts”

ISMP 2018, Bordeaux, France, Invited Talk, “Computational Results with  $\mathcal{V}$ -Polyhedral Cuts and Strengthening Approaches”

Lehigh University, Industrial and Systems Engineering, Bethlehem, PA, USA, June 12, 2018, Invited Talk, “Disjunctive Cuts Through the  $\mathcal{V}$ -Polyhedral Lens”

INFORMS 2017, Houston, TX, USA, Invited Talk, “ $\mathcal{V}$ -Polyhedral Cuts”

NemFest 2017, Atlanta, GA, USA, Poster, “ $\mathcal{V}$ -Polyhedral Cuts”

Aussois Combinatorial Optimization Workshop 2017, Aussois, France, “From Final Point Cuts to  $\mathcal{V}$ -Polyhedral Cuts”

INFORMS 2016, Nashville, TN, USA, Invited Talk, “Final Point Generalized Intersection Cuts”

EURO 2016, Poznań, Poland, “Final Point Generalized Intersection Cuts”

MIP 2016, Miami, FL, USA, Poster, “Cutting Planes by Tilting”

IOS 2016, Princeton, NJ, USA, “Final Point Generalized Intersection Cuts”

INFORMS 2015, Philadelphia, PA, USA, Invited Talk, “Feasible Versus Infeasible Intersection Points for Cut Generation”

ISMP 2015, Pittsburgh, PA, USA, “Partial Hyperplane Activation for Generalized Intersection Cuts”

INFORMS 2014, Charlotte, NC, USA, Invited Talk, “Computational Investigation of Generalized Intersection Cuts”

MIP 2014, Columbus, OH, USA, Poster, “Computational Investigation of Generalized Intersection Cuts”

SERVICE	<p><b>Co-Founder/Organizer:</b> Discrete Optimization Talks: A Virtual Seminar Series <span style="float: right;">2020–</span></p> <p><b>Service at the University of Florida</b></p> <ul style="list-style-type: none"> <li>• University of Florida INFORMS Student Chapter, Faculty Advisor <span style="float: right;">2021–</span></li> <li>• EIN 6918: Graduate Seminar Organization <span style="float: right;">2022</span></li> </ul> <p><b>Editorial Board:</b> Computational Optimization and Applications <span style="float: right;">2022–</span></p> <p><b>Conference Chair and Founder:</b> YinzOR Student Conference <span style="float: right;">2017</span></p> <p><b>Reviewer / Program Committee</b></p> <p><i>Journals:</i> Mathematical Programming Computation (2016, 2019, 2022), INFORMS Journal on Computing (2022), Operations Research Forum (2020, 2022), Mathematical Programming (2022), Journal of Artificial Intelligence Research (2021, 2022), INFORMS Journal on Optimization (2022), Operations Research (2021), IEEE Power Engineering Letters (2021), Discrete Optimization (2020, 2021), Artificial Intelligence Journal (2020)</p> <p><i>Conferences / Workshops:</i> ACM Conference on Economics and Computation (EC) (2020, 2022), IPCO (2019, 2020, 2022), MIP Workshop Poster Competition (2021), Games, Agents, and Incentives Workshop (GAIW) at AAMAS (2019, 2020, 2021), AI for Social Good Workshop (AI4SG) (2020), AI<sup>3</sup> Workshop at AAMAS-IJCAI (2018), EXPLORE Workshop at AAMAS (2017), CPAIOR (2015)</p> <p><b>Organizing Committee:</b> PanOptiC View on Global Optimization, Gainesville, FL, USA (2023), Workshop on Data Science for Real-Time Decision Making, Montréal, QC, Canada (2022), NeurIPS 2021 Competition: Machine Learning for Combinatorial Optimization (2021), Egon Balas Memorial Symposium, Pittsburgh, PA, USA (2019), YinzOR Student Conference, Pittsburgh, PA, USA (2017)</p> <p><b>INFORMS Professional Society Service:</b> Session Chair at Annual Meeting (2017, 2019–2021, 2023), Annual Meeting Mentor for Amazon SCOT Program (2021), Education Outreach Committee (2018–2019), Student Affairs Committee (2016–2018), Chapters/Fora Committee (2016), Student Representative on the Subdivisions Council (2015–2016) with membership in subcommittees on Diversity (2015), INFORMS Connect (2016), and Chapter Health (2016)</p> <p>CMU INFORMS Student Chapter, Founder, President, and Consulting Board Member <span style="float: right;">2014–2018</span>  <i>INFORMS awarded the chapter Summa Cum Laude (2016) and Magna Cum Laude (2017–2019) recognition</i></p> <p>ISMP in Pittsburgh, PA, Session Chair and Volunteer <span style="float: right;">2015</span></p> <p>Cornell Omega Rho Honor Society, President <span style="float: right;">2010–2011</span></p> <p>Cornell Jewish-Russian Club, Treasurer <span style="float: right;">2008–2011</span></p>
OTHER	<p><b>Languages:</b> English (fluent), Russian (native), Italian (intermediate), French (beginner)</p> <p><b>Professional Societies:</b> INFORMS, Mathematical Optimization Society, ACM SIGecom</p>