NINGJI WEI

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RESEARCH INTERESTS

· Network optimization, graph interdiction, integer programming, hybrid algorithms, multi-level optimization, stochastic processes, time series analysis, machine learning methods.

EDUCATION

University at Buffalo, The State University of New York Aug 2016 - June 2020 (expected)

· Ph.D., Industrial and Systems Engineering
Advisor: Dr. Jose L. Walteros
Dissertation: "Integer Programming Methods on Graph Interdiction Problems"
Committee: Dr. Mark H. Karwan, Dr. Shi Li, Dr. Jose L. Walteros
Avg GPA: 4.0

University at Buffalo, The State University of New York Aug 2014 - June 2016

· M.Sc., Industrial and Systems Engineering
Advisor: Dr. Jose L. Walteros
Avg GPA: 4.0

Southeast University, Nanjing, China Aug 2004 - June 2008

· B.S., Logistics Management

AWARDS AND HONORS

· Teaching Assistant of the Year, Department of ISE, University at Buffalo, SUNY, 2019.
· Employee of The Year, Ping An Insurance (Group) Company of China, LTD, 2009.

PUBLICATIONS

Ningji Wei, Jose L. Walteros, Rajan Batta, "On the Distance Between Random Events on a Network." Published in Networks. https://doi.org/10.1002/net.21919

Ningji Wei, Jose L. Walteros, Foad Mahdavi Pajouh, "Integer Programming Formulations for Minimum Spanning Tree Interdiction." Submitted to INFORMS Journal on Computing, **second round review**.

Ningji Wei, Jose L. Walteros, "A Resiliency Analysis of Information Distribution Policies over Mobile Ad Hoc Networks." Submitted to Optimization Letters.

PAPERS IN PREPARATION

Ningji Wei, Jose L. Walteros, "Conditional Supervalid Inequalities on Graph Interdiction Problems."

Cai Gao, **Ningji Wei**, Jose L. Walteros, "Optimal Criteria for the Close Enough Traveling Salesman Problem."

Ningji Wei, "Anomalies Detection on Time Series Data."

CONFERENCE PROCEEDINGS AND PRESENTATIONS

Ningji Wei, Jose L. Walteros, "A Resiliency Analysis of Information Distribution Policies over Mobile Ad Hoc Networks." 2019 INFORMS annual meeting.

Ningji Wei, Jose L. Walteros, "Conditional Supervalid Inequalities on Graph Interdiction Problems." 2019 IISE annual meeting, Doctoral Curriculum Invited Poster Competition.

Ningji Wei, Jose L. Walteros, "Supervalid Inequalities for Network Interdiction Problems." 2018 INFORMS annual meeting.

Ningji Wei, Rajan Batta, Jose L. Walteros, "Statistics of Distance Between two Random Events in a Network." 2018 INFORMS annual meeting.

Ningji Wei, Jose L. Walteros, "Conditional Supervalid Inequalities on General Graph Interdiction Problems." 2018 INFORMS Optimization Society Conference.

Ningji Wei, Jose L. Walteros, "Supervalid Inequalities for Network Interdiction Problems." 2017 INFORMS annual meeting.

Ningji Wei, Jose L. Walteros, F. Mahdavi Pajouh, "Integer Programming Formulations for Minimum Spanning Tree Interdiction." 2017 INFORMS annual meeting.

Jose L. Walteros, **Ningji Wei**, F. Mahdavi Pajouh, "Integer Programming Formulations for Minimum Spanning Tree Interdiction." 2016 INFORMS Optimization Society Conference.

TEACHING EXPERIENCE

Operations Research II: Stochastic Models Jan 2019 - May 2019
OR Undergraduate Core Course

· **Instructor**. Overall course score is $4.2/5$, overall instructor score is $4.4/5$.

Introduction to Linux Server & CCR Oct 2018 - Nov 2018
Short Course of UB INFORMS Workshop

· **Instructor**.

Operations Research I: Deterministic Models Aug 2016 - Dec 2016
OR Undergraduate Core Course

· **Teaching Assistant**. Teaching recitation classes.

PEER REVIEW ACTIVITIES

· Reviewer for the journal Networks, Wiley.

RELEVANT COURSES

Core Courses of Three Departments

· **Industrial and Systems Engineering**: discrete optimization, stochastic methods, simulation, network optimization.

· **Computer Science**: machine learning, algorithms, computation and complexity theory.

· **Math**: game theory, numerical analysis, abstract algebra I & II, topology I & II.

Independent Self-studies for Enhancing Research Abilities

· Markov decision processes, reinforcement learning, measure theory, graph theory, matroid theory, category theory, topos theory, intuitionistic type theory, analysis of manifolds, complex analysis.

SKILLS

· **Optimization:** Cplex, Gurobi
· **Data Analysis:** Numpy, Scipy, Pandas, Mathematica, Minitab
· **Machine Learning:** Scikit-learn, TensorFlow, Keras
· **Proof assistant:** Coq, Agda
· **Programming Languages:** C, C++, Java, Python, VB, Prolog, Haskell, Ocaml
· **Others:** SQL, Maya

FREE SOFTWARE CONTRIBUTIONS

Python Packages:
Generalized Map Function, https://github.com/tidues/GeneralizedMapFunction
Random Distance Calculator, https://github.com/tidues/RanDist

Haskell Packages:
Indexable, https://github.com/tidues/Indexable
TallMastersLayout for XMonad, https://github.com/tidues/xmonad-contrib

PROFESSIONAL EXPERIENCE

Ping An Insurance (Group) Company of China, LTD 2012 - 2014
Leader of Systems Management Team, Operation Management Center

· Analyzed operations in department, designed and implemented systematic solutions.
· Created Data Transformation & Presentation Tool.

Ping An Insurance (Group) Company of China, LTD 2008 - 2012
System Engineer, Business Analyst

· Designed HR Service System.
· Designed Employee Service System.
· Project manager for RFID archives management system.

PROFESSIONAL MEMBERSHIP

INFORMS: The Institute for Operations Research and the Management Sciences.