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EDUCATION

AUGUST 2023 – EXPECTED GRADUATION MAY 2028

UNIVERSITY OF MARYLAND, COLLEGE PARK, MD

- PhD in Operations Management / Management Science
- Working with Bruce Golden, Raghu Raghavan, Luca Bertazzi
- Vehicle routing and transportation, redistricting, NP-Hard approximations

AUGUST 2021 – MAY 2023

CORNELL UNIVERSITY, ITHACA, NY

- M.S. in Operations Research and Information Engineering
- Work with Nikhil Garg and Andrea Lodi on congestion pricing
- Broad interest in optimizing societal systems, e.g. transportation, redistricting, voting, fairness

AUGUST 2017 - MAY 2021

STONY BROOK UNIVERSITY, STONY BROOK, NY

- B.S. in Applied Mathematics and Statistics, Mathematics
- Significant graduate coursework in Operations Research and Statistics
- Minor in Music Theory
- Honors College president
- GPA: 3.93/4.00

GRADUATED JUNE 2017

LYCEE INTERNATIONAL DE SAINT-GERMAIN-EN-LAYE, SAINT-GERMAIN-EN-LAYE, FRANCE

- French-English double diploma, stronger in math/science “filière scientifique”
- SAT scores: 700 English, 800 Math, 780 Math I
- Grade average: A

RESEARCH EXPERIENCE

JUNE 2023 - PRESENT

ESTIMATING OPTIMAL KNAPSACK PROBLEM SOLUTION VALUES, COLLEGE PARK, MD

- Works with Profs. Bruce Golden and Luca Bertazzi (Università degli Studi di Brescia), uses regression and machine learning in order to best predict solutions to hard knapsack and NP-Hard problems.

JUNE 2023 - PRESENT

A MIXED-INTEGGER APPROACH TO MULTIOBJECTIVE REDISTRICTING, COLLEGE PARK, MD

- Works with Prof. Raghu Raghavan, developing a mixed integer program in order to build fair districting maps weighing several objectives (e.g. compactness, competitiveness, county splits, fairness).

JANUARY 2022 – MAY 2023

CONGESTION PRICING MODEL ELABORATION STUDY, ITHACA, NY

- Worked with Profs. Nikhil Garg, Andrea Lodi, and PhD student Natthawut Boonsiriphatthanajaroen in collaboration with ClearRoad in order to establish a tolling system in Bogotá, Colombia. Used OSM data and Python to exploit individual level data, and designs surveys sent to users to determine utility of alternate paths and willingness to pay to implement tolls maximizing throughput and social welfare, along with choice modelling to exploit the data.

JANUARY 2020 – MAY 2021

VERTICALLY INTEGRATED PROJECT “POLITECH” TEAM MEMBER, STONY BROOK, NY

- Participated in active research team under Prof. Robert Kelly, creating fair election district maps in the United States, using algorithmic, deterministic, stochastic, Markov Chain Monte Carlo, probabilistic and geometric approaches based on modifiable “ideal” characteristics.

SEPTEMBER 2019 – MAY 2021

COMPUTATIONAL GEOMETRY INDEPENDENT STUDY, STONY BROOK, NY

- Worked under Prof. Joseph Mitchell with regular group and individual meetings. Focused on maximum/minimum area polygonization of a point set, many variations of the traveling salesman problem, such as, the importance of the nearest neighbor, Minimum Spanning Tree, Gabriel and Delaunay graphs in building an optimal Traveling Salesperson Problem (tour and path), smallest number of edges needed for a given number of triangulations and various guarding and routing problems.

SEPTEMBER 2019 – MAY 2021

RESEARCH SEMINAR IN ALGORITHMS, STONY BROOK, NY

- Took part in a research group with numerous professors and graduate students. Participates in weekly seminars, follow up with individual or group brainstorming on the research.

JUNE 2019 – AUGUST 2019

SPUR: UCLA BIG SUMMER, LOS ANGELES, CA

- Worked in Bogdan Pasaniuc’s lab, using UNITY (Unifying Non-Infinitesimal Trait analysis) to develop a model for Genome-Wide Association Studies (GWAS) comparing the expression of two traits for all SNPs (Single-Nucleotide Polymorphisms), in particular diseases, to find causal SNPs and correlation between traits.

JANUARY 2019 – MAY 2021

RESEARCH GROUP IN COMPUTATIONAL GEOMETRY, STONY BROOK, NY

- Takes part in a research group with professors, postdocs, graduate, and some undergraduate students. Participates in weekly meetings, follow up with individual or group brainstorming on the research.

WORK EXPERIENCE

FEBRUARY 2022

MATH EXPLORER'S CLUB INSTRUCTOR, ITHACA, NY

- Creates lesson plans from scratch to teach local high school students (2 times 2 hours) about nonstandard curriculum math topics, specifically introduction to discrete mathematics through various problems (e.g. Euler Cycle, Four Color Theorem, Traveling Salesperson Problem...) in consultation with Mathematics department postdocs.

SEPTEMBER 2021 – DECEMBER 2022

ACADEMIC EXCELLENCE WORKSHOP CONTENT LIAISON, ITHACA, NY

- While a Teaching Assistant for MATH 1910 (Calculus II), connected on a weekly basis with undergraduates teaching supplementary more informal discussion-like sessions, discussing what material to cover based on in-class and homework observations, along with strategies for doing so.

SEPTEMBER 2019 – MAY 2021

ASTC LEAD TUTOR, STONY BROOK, NY

- Along with peer tutor duties, guided newer tutors by shadowing and giving feedback, helped with trainings and hiring fairs, and communicated information between employers and other tutors. Responsible for creation of center-wide social events.

JANUARY 2019 – MAY 2019

PEER-ASSISTED LEARNING LEADER, STONY BROOK, NY

- Hosted PAL Sessions, offered weekly assistance for students taking Calculus A, emphasizing both group work and individual learning. Frequent contact with professor and two other PAL Leaders. Created own lesson plans based on the material covered in class.

SEPTEMBER 2018 – MAY 2021

ASTC PEER TUTOR, STONY BROOK, NY

- Tutored Calculus I and II, graph theory, combinatorics, upper division probability statistics, operations research, and computational geometry, worked on concepts and problems in weekly hour-long one-on-one meetings and achieving better grades and understanding of the subject matter while discussing study strategies and general college tips.
- Tutor training towards CRLA certification, level 3 attained in December 2019.

ACTIVITIES AND LEADERSHIP

AUGUST 2022 – MAY 2023

OPERATIONS RESEARCH GRADUATE ORGANIZATION CO-PRESIDENT

- Coordinates departmental initiatives for the department, improving student and department life, varying from social events, parts of the general upkeep of the department, and more academic oriented events.

SEPTEMBER 2019 – MAY 2021

HONORS COLLEGE PRESIDENT

- Managed \$5000 yearly budget for 400 students and organization of multiple events including trips to New York City, a barbecue, and game nights. Ran weekly meetings with Class Representatives and weekly 1-on-1 meetings with Honors College staff.

SEPTEMBER 2017 – MAY 2019

RESIDENCE HALL EXECUTIVE BOARD MEMBER

- Regularly hosted programs for the residence hall centering around both educational and social programs to foster one of the most active residence hall communities on campus, as well as directing events for charity fundraising.

SEPTEMBER 2018 – MAY 2019

HONORS COLLEGE CLASS REPRESENTATIVE

- Helped to organize multiple events throughout the year. Connected the Board with the Class of 2021, regularly updating on ongoing events.

AUGUST 2018 – MAY 2021

HONORS COLLEGE BIG SIBLING

- Facilitated the integration of incoming Honors College freshmen to college life, including frequent follow-ups during the whole year.

MARCH 2016 – MAY 2016

SAT “MATH FELLOW”

- Started a program and taught math in English to other students taking the SAT, because none had ever learned math in English. Raised everyone’s scores significantly – over 100 points on average.

TEACHING

CORNELL UNIVERSITY, ITHACA, NY

- ORIE 3120 (Practical Tools for Operations Research, Machine Learning and Data Science) – Spring 2023
- MATH 1910 (Calculus II for Engineers) Teaching Assistant – Fall 2021, Fall 2022

STONY BROOK UNIVERSITY, STONY BROOK, NY

- MAT 127 (Calculus C) Course Grader – Fall 2020
- AMS 303 (Graph Theory) Teaching Assistant – Spring 2020
- AMS 301 (Introduction to Discrete Mathematical Structures) Teaching Assistant – Fall 2019
- MAT 211 (Introduction to Linear Algebra) Course Grader – Fall 2019

SKILLS

- Computer skills:
- Python (advanced)
- Gurobi (intermediate-advanced)
- SQL (intermediate)
- R (beginner-intermediate)
- Unix (beginner-intermediate)
- LaTeX (incl. Beamer; advanced)
- Microsoft Word, Excel and PowerPoint
- Languages:
- French: Native speaker
- English: Fluent
- German: Advanced
- Spanish: Advanced
- Esperanto: Intermediate
- Polish: Intermediate

ADDITIONAL PROGRAMS AND ACTIVITIES

JUNE 2022

STOCHASTIC NETWORKS CONFERENCE PLANNER, CORNELL UNIVERSITY, ITHACA, NY

- Helped plan the Stochastic Networks Conference held at Cornell, from logistics before and throughout the week, to organizing nonacademic events for the attendees around Cornell and Ithaca.

NOVEMBER 2021 - PRESENT

UNDERREPRESENTED MINORITIES APPLICATION HELP, CORNELL UNIVERSITY, ITHACA, NY

- Reviews Cornell ORIE PhD applications from underrepresented minority students, and helps enhance their application and connecting them to one another and resources that may help them throughout the admissions process.

JULY 2016

SCIENCE SUMMER PROGRAM, UNIVERSITY OF SAINT ANDREWS, SCOTLAND

- Participated in a selective three-week summer program with college level courses in various sciences.

OCTOBER 2013, DECEMBER 2015

WORKSHOPS AT INRIA, ROCQUENCOURT, FRANCE

- Delved into complex mathematical problems in many different fields outside of the curriculum (topology, graph theory...), thanks to top 1% performance – among competitive participants – in various mathematics contests.

EXTRACURRICULARS

- Running (2018-), distance runner, 1:23:50 half marathon (Philadelphia, November 2023), 3:08:34 marathon (Cheap Marathon, Derry, New Hampshire, April 2023)
- Piano (2007-), plays diverse repertoire within classical music, with a preference for Chopin, Beethoven, Rachmaninoff, Liszt, and globally romantic era music.
- Tennis (2009-2017), played in club on a weekly basis.

HONORS AND AWARDS

- Stony Brook University Dean's List: Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021.
- Top 1% in French Mathematics Olympiads in 2013 (solo) and 2015 (in group of three)
- Ranked 3rd (2014) and 6th (2013) nationwide in Concours Intégral, over 10000 contestants
- Ranked 18th in Concours Kangourou (2015), over 20000 contestants