Sophia Gunluk

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EDUCATION

Mila/Université de Montréal, Montréal, Canada | September 2022—Present
- *Ph.D. in Computer Science, fully funded by MILA (Québec Artificial Intelligence Institute)*
- *GPA 4.2*
- *Expected Graduation: May 2027*

Cornell University, Ithaca, NY | August 2018—May 2022
- *B.S. Computer Science, Minors in Operations Research and Information Engineering (ORIE) and Philosophy*
- *GPA 3.4*

Stuyvesant High School, New York, NY | September 2014— June 2018

EMPLOYMENT EXPERIENCE

IBM T.J. Watson Research Center, Yorktown Heights, NY, *Research Intern* | May 2022 – August 2022
- Mathematics of AI Research Intern, mentored by Marco Carmosino.
- Project was supported by the Measuring Intelligence Challenge Group, organized by Murray Campbell and Mark Wegman.
- Designed a new reinforcement learning algorithm, combining ideas from two recent NeurIPS papers, that considers the setting of a curious agent in a dangerous, dynamic world based on MiniGrid environments. Developed simulations (in Python) to test the algorithm and compare to pre-existing ones, which involved understanding existing open source code from the papers and using it to develop new environments, intrinsic/extrinsic rewards, and alter policy updates.

Cornell University, Ithaca, NY, *Research Assistant* | February 2021 – May 2022
- Research Assistant for Professor Jamol Pender in the ORIE department, funded by Cornell's Engineering Learning Initiative.
- Project involved designing and implementing stochastic models of community bail funds. Developed simulation implementations (in Python) to test out various conjectures. Created a presentation and poster for the summer portion of the project.
- Paper "Simulating Justice: Simulation of Stochastic Models for Community Bail Funds" was accepted by Winter Simulations Conference 2023.

Cornell University, Ithaca, NY, *Teaching Assistant* | August 2020 – May 2022
- Teaching Assistant for CS 4820: Introduction to Analysis of Algorithms for 3 semesters.
- Responsibilities included holding weekly Office Hours, answering questions online, grading homeworks and exams.

Cornell University, Ithaca, NY, *Teaching Assistant* | June 2021 – December 2021
- Teaching Assistant for ORIE 3300: Optimization I
- Over the summer, I worked with the head TA and the professor to translate the labs from AMPL into Python, as well as to develop new course material to go along with the changes.
- Responsibilities during the Fall semester included holding weekly Office Hours, running recitation sessions, answering questions online, and grading.

The Legal Aid Society, New York, NY, *Intern* | May 2019 – July 2019
- Intern at the Civil Law Department at The Legal Aid Society's Manhattan office.
- Assisted public defenders and lawyers with organizing potential cases, determining validity, and proceeding with filing.
- Responsibilities included interviewing witnesses, preparing witness statements, organizing case files and evidence, helping with immigration cases, working at the hotline, and occasionally sitting in mediations and court proceedings.

Kinet-X, New York, NY, *Mentor/Teacher* | July 2017 – August 2017
- Mentor for a company founded by three high school students, focusing on introducing young children to STEM
- Designed lesson plans, instructed large groups of children as well as smaller groups or individual students, reported students' progress to parents, and mediated conflicts among students.

ACCOMPLISHMENTS

- Selected as a Mila EDI Scholarships Program award recipient of the Excellence scholarship - Women in AI (Winter '23)
- First prize among 18 teams in Citadel's East Coast Regional 2021 Terminal Competition, implemented an autonomous game playing algorithm that competed against other teams' algorithms.
- College of Engineering Dean's List for the Fall 2020 and Fall 2021 semesters
- Participant in 2018 Regeneron Science Talent Search
- Bronze winner of New York City Math Fair 2014
- Member of Study of Exceptional Talent, Johns Hopkins Center for Talented Youth (2013)

SKILLS

Technical Skills: Proficient in Java, Python, AMPL, Assembly, C, C++, R, OCaml, LaTeX, Word, Excel.
GRE: V:157 Q:169