Jeffrey Liu

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I like thinking critically to find intelligent solutions to big problems. Hard worker. Broad interests. Love to Learn.

WORK EXPERIENCE

Uber ATG *Toronto, ON (Remote)*
Research Intern May – Oct. 2020
+ Owned and led a research project advancing the field of *neural architecture search*
+ Asked questions, reviewed literature, designed and conducted ML experiments, analyzed and presented results; with guidance and mentorship from industry leading scientists
+ Direct Supervisor: Renjie Liao. Advisor: Prof. Raquel Urtasun
+ Paper based on this work to be submitted to *ICLR 2021*

Wish *San Francisco, CA*
Software Engineer Intern • Python, ReactJS, MongoDB, Kubernetes May – Aug. 2019
+ Full stack SWE on the merchant payments team, which handles payment of billions of dollars annually
+ Created a dashboard and API to automatically detect, diagnose, and fix disbursement issues; helped resolve and prevent millions of dollars' worth of underpayments/overpayments
+ Contributed to admin tools, fraud detection, payment holds, data logging and pipelining

PROJECTS

Euclidean Geometry Automated Theorem Prover • Python
+ Created an AI engine which, given an Olympiad-level geometry problem, automatically finds a solution and outputs a human-readable proof
+ Designed and implemented a rule-based template matching solver over first order predicate logic
+ Leveraged multiprocessing for significant performance gains
+ Next steps: incorporate ideas from graph representation learning

Mathematical Optimization Library • C++ (Eigen), Python
+ Implemented state-of-the-art algorithms to solve various linear, integer, and convex programs
+ Incorporated a user-friendly interface via python bindings and a symbolic math library (SymPy)
+ Played with applications: traveling salesman art, traditional machine learning

AWARDS

+ **Canadian Computing Olympiad 1x Silver, 1x Bronze** (13th, 15th nationally)
+ **Asian Pacific Math Olympiad 2x Qualifier** (top ~20 nationally)
+ **Canadian Math Olympiad 2x Qualifier** (finished 12th, 19th nationally)
+ **United States of America Math Olympiad Qualifier** (top 242 of 120k AMC participants)
+ **Euclid Mathematics Contest 2018 Plaque Winner** (3rd in Canada, 1st in my grade)

EDUCATION

University of Waterloo Sep. 2018 – Apr. 2023 (Expected)
B. Math., Triple Major in Computer Science, Combinatorics & Optimization, Pure Math.
+ 93.6% Cumulative GPA (95.2% Math GPA, all terms Dean's Honour List)
+ CIBC National Scholarship (awarded to the top student entering the UWaterloo Faculty of Math)

INTERESTS

+ **Professional**: high performance programming, machine learning, combinatorics, graph theory,
+ **Hobbies**: swimming, watercolour painting, weightlifting (not that good though)