MASON DUBOEF

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Personal Website · LinkedIn · GitHub

EDUCATION

University of Massachusets Amherst   *Dec 2026 (expected)*
M.S. in Computer Science
GPA: 3.94/4.0
Relevant courses: Reinforcement Learning | AI Alignment | Machine Learning | Artificial Intelligence | Algorithms, Game Theory & Fairness | Cyber Effects | Linear Algebra

Rensselaer Polytechnic Institute (RPI)   *June 2023*
B.S. in Computer Science (Concentration in AI & Data)
Relevant courses: Intro to AI (later mentored) | Economics & Computation | Intro to Network Science | Foundations of CS (Theory) | Intro to Algorithms | Data Structures | Multivariable Calculus & Matrix Algebra | Differential Equations | Operating Systems | Prog. Languages | Computability & Logic | Software Docu. & Design

RESEARCH INTERESTS

I am interested in reinforcement learning, alignment and complex real-world decision-making systems.

RESEARCH EXPERIENCE

Algorithmic Fair Allocation for Food Rescue   *Sep 2025 - Dec 2025*
Supervisor: Prof. Yair Zick   UMass Amherst

· As part of Fair and Explainable Decision Making (FED) lab
· Integer linear program optimized routing of drivers from food donors to receiving agencies
· Produced fair and efficient allocation of food under changing dynamics and stochastic availability
· Dispatch solution for Rachel's Table, a food rescue delivering 50k meals per month in Western MA

Interpretable Prediction & Large-Scale Analysis of Judging in Boxing *Jan 2024 - Present*
Supervisor: Dr. Allan Svejstrup Nielsen   Jabbr

· Developed autonomous judging system for boxing with accuracy within the range of top-level judges
· Gradient descent & neural network mapped stats output by computer vision system onto judges' scores
· Evaluation of top judges and analysis of their stylistic differences
· Finalist in 2026 MIT Sloan Sports Analytics Conference Research Paper Competition

Stable Matching in OPRA Voting Platform   *Sep 2022 - Jun 2023*
Supervisor: Prof. Lirong Xia   RPI

· Back-end Django development on OPRA, an online preference reporting and aggregation system
· Added support for stable matching problems, including deployment of different matching algorithms

CONFERENCE PAPERS

duBoef, M., Romeas, T., Charbonneau, M., & Nielsen, A. S. Interpretable Prediction and Large-Scale Analysis of Judging in Professional Boxing. *(Finalist) MIT Sloan Sports Analytics Conference 2026.*

PROFESSIONAL EXPERIENCE

Jabbr - Research Intern   *Jan 2024 - Present*
Reference: Dr. Allan Svejstrup Nielsen (CEO)

· ML-based research on judging in professional boxing
· See "Research Experience" section for details

Mammoth Media - Data Science Intern   *Aug 2021 - Jan 2022*
References: Solene Schwartz (COO) and Zachary Chow (General Manager)

· Statistical analysis of TikTok ads, informing branded content creation & media buying strategy
· Automated production and delivery of performance dashboards for clients
· Media buying, personally managed 5-6 figure monthly spend for many notable brands

Meta - Data Challenge Finalist   *Apr 2021 - Aug 2021*

· Four-month training program at Meta, mentored by Facebook data scientists and engineers
· SQL courses, final project on market viability of telenovelas for OTT streaming services

Luum.io - Software Engineering Intern   *May 2020 - Aug 2020*
Reference: Sebastien Gouin-Davis (CEO)

· Android app design, testing and development for lighting control platform
· Created PHP-based cost estimation tool for online marketing and customer acquisition

PERSONAL PROJECTS

NYC Subway Challenge   *Oct 2025 – Dec 2025*

· Hierarchical reinforcement learning system to find a route for the NYC Subway Challenge (a minimum spanning walk problem) using value iteration and between-ness clustering
· Algorithmically found near-optimal (fastest) routes though through all 472 NYC subway stations

Willow   *Mar 2023 - Jun 2023*

· Working under Prof. Bram Van Heuveln (RPI)
· Expanded web app used to build and assign truth trees, enabling Davis-Putnam type logic problems

Have I Been Gerrymandered?   *Sep 2022 – Dec 2022*

· An interactive online map indicating how gerrymandered individual congressional districts are
· Developed novel extension to efficiency gap, a measure of district fairness given electoral data

Dynamic Subway Tolling for Congestion Deterrence   *Mar 2022 - Jun 2022*

· Devised optimal toll pricing to deter congestion and promote efficiency on NYC's 1 Line
· Used Nash equilibrium analysis and traffic simulation based on MTA data

Automatic Door Control   *Jun 2021 - Aug 2021*

· Android development and circuit design for accessibility project, enabling remote opening of doors

SKILLS

Languages	Python, C/C++, Java, Django, SQL, TypeScript, Kotlin, React.js, Prolog, Lisp, Haskell, & MIPS Assembly
Tools	TensorFlow, PyTorch, Sklearn, Pandas, Numpy, Git, Matplotlib, Jupyter Notebook, Gurobi, Postman, Gephi, LaTeX, Beautiful Soup & WordPress