

MASON DUBOEF

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Personal Website · LinkedIn · GitHub

EDUCATION

University of Massachusetts 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 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

Reference: Dr. Mallory Gaspard (Project Lead)

- 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, BeautifulSoup & WordPress