

# MASON DUBOEF

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[Personal Website](#) · [LinkedIn](#) · [GitHub](#)

## EDUCATION

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### 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

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I am broadly interested in reinforcement learning, from core RL topics to alignment and multi-objective settings.

## RESEARCH EXPERIENCE

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### Algorithmic Fair Allocation for Food Rescue

*Sep 2025 - Dec 2025*

*Supervisor: Prof. Yair Zick*

FED Lab - UMass Amherst

- 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
- Upcoming oral presentation at *2026 MIT Sloan Sports Analytics Conference* as a competition finalist

### 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

## PUBLICATION

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**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

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### **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

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### **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*

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

## SKILLS

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### **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