

Harrison Ellis Sims, PhD

Senior Data Scientist

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PERSONAL STATEMENT

I am a Senior Experimental Data Scientist specializing in Ad Tech. I design, execute, and analyze experiments focused on case-specific advertising metrics to guide critical product decisions. I also create scalable statistical models that optimize timing, pricing, shaping, and other auction dynamics within the ad tech stack. I believe that my background in experimental design and my experience in applying it to ad tech positions me to drive increased reach, ad spend, auction efficiency.

KEY SKILLS

- **Experimental design:** A:B/Multivariate testing, pulse testing.
- **ML and Statistical modeling:** Numerical methods, regression, anomaly detection, stochastic techniques.
- **Data analysis:** Develop automated analysis applications for reporting and alerting, as well as performing ad hoc experimentation and analysis for specific use cases.
- **Programming:** Scala, Python, Spark, C++, git version control.
- **Data engineering and processing:** SQL, Hadoop, Snowflake, ROOT.
- **Inter-audience communication:** Collaborate with a diverse range of stakeholders. I interpret requirements, suggest improvements, communicate results and deliver solutions effectively and clearly.
- **Knowledge of ad tech industry:** Interact internally with product experts and externally with Publishers, DSPs and independent market authorities giving me a unique perspective into the ad tech industry.

EXPERIENCE

Magnite

Senior Data Scientist

Los Angeles, CA

July 2024 - Present

- **Chrome PA-API testing, Lead:** \$5M grant awarded. Led the Data Science contribution to testing Chrome's PA-API solution for third-party cookie deprecation. Conducted and analyzed 6-week measurement of spend and impression metrics for randomized groups. Contributed results and interpretations to the final report which was submitted to the Competition Markets Authority.
- **Variable Take Rate algorithm, Lead:** \$20k/day net revenue lift (v1). Researched and implemented an algorithm that uses heuristic signals, regression, and numerical optimization to set fees dynamically, maximizing net revenue while satisfying contractual constraints.
- **Ad size prioritization algorithm, Lead:** \$15k/day net revenue lift. Developed and released an algorithm to prioritize valuable display ad sizes, increasing bid probabilities using historical spend distributions.

Data Scientist

June 2022 - June 2024

- **Latency algorithms, Lead:** \$30k/day net revenue lift. Developed and productionized automated algorithms to configure DSP and publisher latency settings using continual A/B testing and statistical modeling of bids and render rates.
- **Ad hoc experiments and analysis:** Planned and executed experiments to determine optimal timeout configurations, audience ID sources, fees, and QPS settings for various types of advertising inventory.

Rutgers University / Oak Ridge National Laboratory

Experimental Data Scientist: Postdoctoral Associate

New Brunswick, NJ / Oak Ridge, TN

October 2020 - June 2022

- Proposed, executed and analyzed nuclear physics experiments at competitive U.S. facilities.
- Effectively led experimental teams and mentored junior members.

Ph.D. Graduate researcher

September 2016 - October 2020

- Cleaned, calibrated and analyzed data from the $^{84}\text{Se}(d,p)$ reaction using ML techniques to further inform the modeling of nuclear weapon detonations, as well as thermonuclear reactions in supernovae.
- Internship in the Nuclear and Particle Physics group at Lawrence Livermore National Laboratory. Developed a heuristic statistical method to accurately diagnose a Fission Time Projection Chamber.

EDUCATION

Rutgers University

Ph.D. Physics

New Brunswick, NJ

January 2021

University of Surrey

MPhys, Physics with nuclear astrophysics

Surrey, United Kingdom

May 2016