Harrison Ellis Sims, PhD

Staff Data Scientist

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PERSONAL STATEMENT

Staff Data Scientist specializing in experimentation, measurement, and algorithmic decision-making for large-scale ad tech systems. My work focuses on designing and evaluating models that optimize complex tradeoffs, alongside leading rigorous experiments to assess causal impact on core business metrics. I partner closely with product and engineering teams to translate data into decisions that meaningfully shape product direction.

KEY SKILLS

- **Experimental design:** A/B, causal inference using randomized intervention and observational data.
- **Algorithm design and ML:** Regression, bandit (greedy and contextual), anomaly detection, ensemble methods and numerical solutions to non-linear problems.
- **Data analysis:** Develop automated statistical analysis applications for real-time reporting and alerting. Also perform ad hoc analysis, resulting in actionable insights with robust confidence intervals.
- **Programming:** Scala, Python, SQL, C++; distributed systems with Spark; git version control.
- **Data engineering and processing:** Databricks, 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.
- **Domain expertise:** Partner with product teams and external stakeholders to navigate complex marketplace and regulatory environments.

EXPERIENCE

Magnite   **Los Angeles, CA**

Staff Data Scientist   *Jan 2026 - Present*

- **Ad Server mediation optimization:** Investigating and developing traffic shaping methods to optimize publisher yields in the ad server.
- **Measurement and Experimentation:** Design and execute rigorous production experiments to quantify causal impact and inform product and revenue decisions.

Senior Data Scientist   *July 2024 - Dec 2025*

- **Variable Take Rate algorithm, Lead:** $20k/day net revenue lift. Researched and implemented an algorithm that uses heuristic signals, regression, and Lagrangian decomposition to set fees dynamically, maximizing net revenue while satisfying contractual constraints.
- **Ad format prioritization algorithm, Lead:** $15k/day net revenue lift. Developed an algorithm to optimize the ad format of an ad request, increasing bid metrics using historical spend distributions.
- **Chrome Privacy Sandbox test report, Lead:** $5M grant awarded. Led the Data Science contribution to testing Chrome's PAAPI 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.

Data Scientist   *June 2022 - June 2024*

- **Latency algorithms, Lead:** $30k/day net revenue lift. Implemented automated algorithms to configure DSP and publisher latency settings using A/B testing and statistical modeling of bids and render rates.

Rutgers University / Oak Ridge National Laboratory   **New Brunswick, NJ / Oak Ridge, TN**

Postdoctoral Associate: Experimental Scientist   *October 2020 - June 2022*

- Proposed, executed and analyzed nuclear physics experiments at competitive U.S. facilities.

Ph.D. Graduate researcher   *September 2016 - October 2020*

- Cleaned, calibrated and analyzed data from the ^{84}Se(d,p) reaction using ML techniques to inform the modeling of nuclear weapon detonations and thermonuclear reactions in supernovae.

EDUCATION

Rutgers University   **New Brunswick, NJ**

Ph.D. Physics   *January 2021*

University of Surrey   **Surrey, United Kingdom**

MPhys, Physics with nuclear astrophysics   *May 2016*