

Jonathan S. Brown, PhD

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PROFESSIONAL EXPERIENCE

Senior Data Science Manager, Hyundai Motor America Oct 2024 – Present

- Managed a team of four in addition to providing daily direction to several offshore data engineers. Supported the North American Safety Office to proactively identify and mitigate emerging vehicle safety issues through advanced analytics and machine learning, directly impacting consumer safety and regulatory compliance.
- Made significant technical contributions that enabled safety analysts and engineers to conduct their work. These contributions included data pipelines for automated classification and information extraction from unstructured data, as well as services that leverage high frequency vehicle telematics data.
- Spearheaded department-wide adoption of LLMs and AI. Championed Python and AI/ML across multiple business units within Hyundai Motor America. Conducted technical workshops, provided consultation on data infrastructure, and established best practices for software development lifecycle and data science workflows.

Data Science Manager, HeadSpin Inc. Apr 2024 – Jun 2024

- Managed a team of roughly 5 data scientists and analysts. I was responsible for keeping the data team's work aligned with core business objectives that spanned customer help desk, internal tooling, and product development business domains. I also performed extensive code review and leveled-up junior developers.

Senior Data Scientist, HeadSpin Inc. Apr 2022 – Apr 2024

- Collaborated with internal stakeholders to implement APIs and UIs responsible for business-critical operations including usage-based billing, customer hardware provisioning, and reducing unnecessary cloud spend. I eliminated error-prone spreadsheet driven processes and provided observability (Prometheus and Grafana), auditing, and alerting capabilities crucial for scaling business operations and maintaining platform health.

Data Scientist, HeadSpin Inc. Jan 2020 – Apr 2022

- HeadSpin's core value proposition is detecting, diagnosing, and resolving critical user experience issues in customer applications. I implemented and maintained dozens of customer-facing metrics, APIs, and analysis pipelines that operate on video, audio, and network packet streams and run asynchronously on distributed systems. I also executed a critical reimplemention of the flagship data product that reduced customer churn.

Insight Data Science Fellow, Insight Sept 2019 – Dec 2019

- Mined over one hundred thousand matches and trained models that predicted game outcomes with 75% accuracy. Deployed models in a Django app designed to minimize player churn.

Postdoctoral Scholar, UC Santa Cruz Aug 2018 – Aug 2019

- Deployed a Django app to automatically index, archive, explore, and retrieve tens of thousands of astronomical images, enabling reproducible science with high quality curated datasets.
- Deployed a Django app to coordinate distributed follow-up of astrophysical transients using probabilistic models to maximize detection likelihoods of rare transient events.

Graduate Student Researcher, The Ohio State University Aug 2013 – July 2018

- Measured key physical properties of hundreds of thousands of galaxies by developing empirical, data-driven, non-parametric models based on subtle features in spectroscopic data.
- Characterized the physical properties of rare astrophysical phenomena by connecting imaging data, spectroscopic data, and intuitive models using non-linear regression and MCMC techniques.

EDUCATION

Ph.D. in Astronomy, The Ohio State University July 2018

M.S. in Astronomy, The Ohio State University July 2016

B.S. w/ Highest Honors in Astrophysics, University of Michigan May 2013

B.S. in Interdisciplinary Physics, University of Michigan May 2013

TECHNICAL SKILLS

Software: Python, Go, JavaScript, SQL (PostgreSQL, MySQL), Redis

Tools: NumPy, Pandas, Scikit-learn, LLMs, PySpark, FastAPI, Vue, D3, Prometheus

Cloud/Orchestration: AWS (S3, EC2, RDS, Redshift), Docker, Kubernetes, Temporal, Airflow