Sarah E Draves

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Summary

Applied scientist and former data analyst with experience owning end-to-end analytics and research workflows, from ambiguous problem definition through validated, stakeholder-facing outputs. Strong background in Python-based data analysis, data integration, and uncertainty-aware inference, with a track record of translating complex technical work into decisions used by sales, marketing, and executive teams.

Experience

Brown Dwarfs in NYC Group, *Research Assistant* May 2025 – Present

- Compiled and standardized a multi-source dataset of stellar light curves from TESS and K2 for ~200 stars to enable longitudinal analysis of temporal pattern changes across multi-year baselines.
- Designed and implemented custom multiplot visualizations to surface key light curve features to support systematic manual review of ~1000 light curves and comparisons across the full dataset.
- Took primary ownership of data validation and exploratory analysis by manually inspecting all multiplots to catalog morphological features, generating summary statistics, and creating diagnostic plots to highlight notable cases.
- Contributed code, figures, and methodology text to an in-progress research paper and collaborated with a postdoctoral researcher on analysis and interpretation.
- Project funded via a selective National Science Foundation-backed AstroCom NYC undergraduate research fellowship.

Gotham Web Lab*, Research Assistant* May 2024 – Present

- Built Python-based analysis pipelines using Legacy Survey of Space and Time simulated data to infer large-scale structure and galaxy properties from high-volume, noisy survey observations.
- Developed methods to reconstruct two-dimensional cosmic filaments from photometric redshift slices, explicitly accounting for redshift uncertainty and incomplete information.
- Compared inferred two-dimensional filament structures against three-dimensional filaments created from underlying galaxy positions in the simulated data to qualitatively assess two-dimensional slicing and reconstruction methodology performance.

Highspot, *Data Analyst* June 2019 – June 2023

- Owned end-to-end analytics projects supporting Sales and Marketing teams, from stakeholder discovery and metric definition through data modeling, dashboard delivery, documentation, and long-term maintenance.
- Built and maintained production SQL data sources in Snowflake integrating Salesforce, Workday, and operational data, enabling consistent analysis across go-to-market functions.
- Designed Tableau dashboards used by dozens of stakeholders to monitor pipeline health, quota attainment, and marketing performance, supporting recurring operational and strategic decisions.
- Partnered directly with sales, marketing, finance, and executive stakeholders to clarify business questions, validate definitions, and translate ambiguous requests into concrete analytical outputs.
- Established data validation workflows comparing Tableau Online dashboards against source systems, improving trust in executive-facing metrics and reducing downstream clarification and rework.
- Led recurring meetings with customer-facing teams and executives to present findings, discuss tradeoffs, and gather feedback, iterating on analytics products as business needs evolved.
- Promoted from intern to full-time analyst in April 2020 based on performance and project ownership.

Education

CUNY New York City College of Technology, Bachelor of Science December 2025

- Major: Applied Computational Physics, Overall GPA: 4.00/4.00, graduated *summa cum laude*
- Additional coursework completed at CUNY Borough of Manhattan Community College (Spring and Fall 2023) and CUNY Graduate Center (Fall 2025)

Colgate University, Bachelor of Arts December 2019

- Major: Mathematical Economics, Major GPA: 3.90/4.00, graduated *magna cum laude*

Technical Skills

Programming Languages: Python (NumPy, Pandas, SciPy, scikit-learn, Astropy, matplotlib, Plotly, Seaborn), SQL, Java
Software: Tableau Desktop, Tableau Prep, Snowflake, Excel, Salesforce
Other: Data validation & QA, exploratory data analysis, algorithm evaluation, data visualization design, stakeholder requirements gathering, technical documentation