Andrew Casey-Clyde, Ph.D.

Research Scientist | Data Scientist

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Summary

Ph.D.-trained data scientist with 8+ years of expertise in statistical modeling, predictive analytics, and machine learning. Skilled in leveraging Python, SQL, and advanced methods – such as Bayesian inference – to derive actionable insights from complex datasets. Proven ability to communicate technical findings to diverse audiences, lead cross-functional collaborations, and optimize workflows for research advancements. Passionate about driving data-informed innovation in industry.

Skills

Programming Languages: Python, SQL, Java, C++, C

Data Science & Machine Learning: Predictive Modeling, Bayesian Inference, Regression Analysis, Neural Networks, Causal Inference, Optimization, Data Visualization, Experimental Design, Hypothesis Testing

Tools & Platforms: NumPy, SciPy, Scikit-learn, Keras, TensorFlow, Git, Jupyter

Soft skills: Communication, Leadership, Collaboration, Problem-Solving, Project Management,

Experience

Yale University — **New Haven, Connecticut**
Visiting Research Assistant — *Aug. 2023 – Dec. 2024*
- Developed hierarchical Bayesian models for multi-modal astrophysical datasets, improving population predictions.
- Led cross-functional collaboration with 100+ scientists; results published in top-tier journal.
- Leveraged survival analysis techniques to analyze noisy, incomplete datasets, producing actionable insights.

University of Connecticut — **Storrs, Connecticut**
Graduate Research and Teaching Assistant — *Aug. 2019 – Dec. 2024*
- Designed hierarchical Bayesian models to enhance predictive analytics using multi-modal data; methods published in a high-impact journal.
- Optimized predictive model efficiency by $300\times$ using Hamiltonian Monte Carlo, reducing computational costs significantly.
- Secured $8,000 NASA Space Grant Fellowship based on innovative research proposals.

San José State University — **San Jose, California**
Graduate Research and Teaching Associate — *Sep. 2016 – Aug. 2019*
- Built convolutional neural network pipelines for galaxy classification across large datasets.
- Developed Bayesian analysis techniques for predictive spatial mapping of astronomical observations.

Salient Process, Inc. — **Sacramento, California**
Software Engineer — *Feb. 2015 – Aug. 2016*
- Led development of SPARK UI toolkit (acquired by IBM), showcasing practical experience in software engineering.
- Pioneered Git-based version control for streamlined software management.
- Designed and maintained software tools, improving productivity and quality of deliverables.

Education

University of Connecticut — **Storrs, Connecticut**
Ph.D. Physics, GPA: 3.823 — *2024*
Dissertation: *Multi-messenger Constraints on Supermassive Black Hole Binaries.*

San José State University — **San Jose, California**
M.S. Physics, GPA: 3.791 — *2019*
Select courses: Machine Learning & Data Analysis in Astronomy, Statistical & Machine Learning Classification, Deep Learning

University of California, Davis — **Davis, California**
B.S. Physics, GPA: 2.945 — *2014*