

# Andrew Casey-Clyde, Ph.D.

Research Scientist | Data Scientist

San Francisco Bay Area, California

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## Summary

Ph.D.-trained data scientist with 8+ years of experience in statistical modeling, predictive analytics, and machine learning. Expertise in Python, SQL, and deriving actionable insights with Bayesian inference. Skilled in cross-functional collaboration, technical communication, and optimizing workflows. Passionate about creating data-driven solutions to complex problems.

## Skills

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

**Data Science & Machine Learning:** Predictive Modeling, Bayesian Inference, Regression Analysis, Neural Networks, Causal Inference, Data Visualization, Optimization, 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

Visiting Research Assistant

New Haven, Connecticut

Aug. 2023 – Dec. 2024

- Developed hierarchical Bayesian models for multi-modal astrophysical datasets, improving population predictions.
- Led cross-functional collaboration with 100+ scientists; published results in a top-tier journal.
- Leveraged survival analysis techniques to analyze noisy, incomplete datasets, producing actionable insights.

### University of Connecticut

Graduate Research and Teaching Assistant

Storrs, Connecticut

Aug. 2019 – Dec. 2024

- Designed hierarchical Bayesian models to enhance predictive analytics; published methods in a high-impact journal.
- Optimized predictive model efficiency by 300× using Hamiltonian Monte Carlo, reducing computational costs significantly.
- Secured \$8,000 NASA Space Grant Fellowship based on innovative research proposal.

### San José State University

Graduate Research and Teaching Associate

San Jose, California

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 datasets.
- Presented research findings to academic and professional audiences.

### Salient Process, Inc.

Software Engineer

Sacramento, California

Feb. 2015 – Aug. 2016

- Led development of SPARK UI toolkit, acquired by IBM.
- Pioneered Git-based version control for streamlined project management.
- Designed and maintained software tools, improving productivity and quality of deliverables.

## Education

### University of Connecticut

Ph.D. Physics, GPA: 3.823

Storrs, Connecticut

2024

Dissertation: *Multi-messenger Constraints on Supermassive Black Hole Binaries.*

### San José State University

M.S. Physics, GPA: 3.791

San Jose, California

2019

Select courses: Machine Learning & Data Analysis in Astronomy, Statistical & Machine Learning Classification, Deep Learning

### University of California, Davis

B.S. Physics, GPA: 2.945

Davis, California

2014