

# Diego Miura

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## EDUCATION

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**Yale University**, New Haven, CT

Expected Graduation May 2027

- BS in Astrophysics, Certificates in Data Science and Energy Studies
- *Relevant Coursework*: Physics of AI, Mathematical Methods of Physics, Probability Theory
- *Awards*: Hispanic Scholarship Fund Scholar

## SKILLS

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- *Languages*: English, Spanish, French (Fluent), Dutch (Conversational)
- *Technical*: Python, SQL, Git, Shell; NumPy, PyTorch, JAX
- *Analytics*: Statistics/Probability, Optimization, Modeling, Data Visualization

## LEADERSHIP & SELECTED PROJECTS

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**Elmseed Consulting**, *Head of Consulting*, New Haven, CT

2023-Present

- Direct 3 concurrent teams and enforce milestones, deliverable review, and narrative structure for all client-facing presentations.
- Standardize templates and review processes for slide decks and workplans, improving consistency and turnaround time across projects.
- Design and run onboarding workshops on structured problem solving and slide writing, training 10 new consultants per semester.

**Yale Astronomical and Space Student Society**, *Project Chair*, New Haven, CT

2023-Present

- Drive outreach to first-years and the New Haven community, growing active membership from 50 to 500+.
- Deliver 40+ astronomy events with 20+ attendees per event, including faculty-student dinners and meteor-shower / northern-lights observing nights.
- Launched and manage an underclassmen–upperclassmen mentorship program pairing 10 mentors with 20 mentees.

**OGLE Microlensing Automation**, *ASTR3560 Final Project*

2025

- Built an end-to-end unsupervised pipeline on 1,496 Optical Gravitational Lensing Experiment (OGLE) Early Warning System microlensing events, engineering ~60 morphology features from irregularly sampled light curves.
- Embedded events with UMAP and clustered with HDBSCAN, identifying 3 robust morphology clusters and isolating outliers as candidates for exotic lensing events.

## RESEARCH EXPERIENCE

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**DiRAC Institute**, Seattle, WA

2025-Present

*Aritra Ghosh Group*

- Train and benchmark Hyrax (astronomy ML framework for large imaging surveys) models in PyTorch (CNNs, convolutional autoencoders/DCAE, SimCLR) on ~6,000 realistic HSC-simulated IllustrisTNG subhalo images.
- Execute training and inference at scale on NCSA Delta using Slurm, monitoring convergence and run stability to identify robust configurations for subsequent hyperparameter tuning.

**Yale University**, New Haven, CT

2023-Present

*Meg Urry Group*

- Near-infrared spectroscopy of high-redshift Fermi blazars using H $\beta$  and Mg II  $\lambda$ 2800 lines. Project underway.

*Meg Urry Group*

- Analyzed properties of variability-selected  $z < 1.5$  active galactic nuclei and studied their black hole mass – host mass relation. Paper published.