

# Evan Frangipane

☎ +1 (310) 310-9459   frangipane.evan@gmail.com   🏠 Los Angeles, CA

🌐 [Linkedin](#) [evanfrangipane.com](#)

## Summary

---

Recent Ph.D. in theoretical physics looking to take my technical experience into the private sector, focusing on data analytics and data science. Proficient in Python, SQL, data visualization, statistics, and mathematics. Strong track record of collaborative research and years spent working with students demonstrate my ability to work in a team.

## Education

---

**Ph.D. in Physics** *University of California, Santa Cruz*

**Santa Cruz, CA** 2018-2024

**B.A. in Physics** *University of California, Berkeley*

**Berkeley, CA** 2014-2018

## Employment

---

**Graduate Student Researcher,** *University of California, Santa Cruz*

2018 - 2024

- Engaged in collaborative theoretical physics research resulting in peer-reviewed publications
- Numerical General Relativity simulation of Coleman DeLuccia bubbles, quantum field theory calculations in flat and curved spacetimes, hypothesis testing for primordial black holes as dark matter

**Teaching Assistant,** *University of California, Santa Cruz*

2018 - 2024

- Led undergraduate physics lab and discussion sections
- Assisted students in Python data analysis involving error propagation, linear regression, and chi-squared tests

**Undergraduate Researcher,** *Lawrence Berkeley National Laboratory*

2016 - 2018

- Participated in detector development for the ATLAS collaboration
- Summer research fellowship in Genoa, Italy and CERN
- Contributed to detector development white paper for the High Luminosity Large Hadron Collider

## Projects

---

*Numerical Simulation of Bubble Dynamics in Flat de Sitter Coordinates,*

2024

- Performed a full general relativity simulation of Coleman de Luccia bubble in C++ and python
- Simulation involved adaptive mesh refinement and the method of lines resulting in the first result for this spacetime and coordinate system

*Revealing terrestrial-mass primordial black holes with the Nancy Grace Roman Space Telescope,*

2023

- Utilized Anderson-Darling statistical tests to discriminate between populations of Free-Floating Planets and Primordial Black Holes
- Used Kubernetes to run large microlensing simulations on the Nautilus cluster. This saved hundreds of hours by running massive parallel jobs

*Unitarity and the information problem in an explicit model of black hole evaporation*

2021

- Explored the paradox of black hole evaporation using explicitly described evaporation models and quantum information techniques

## Skills

---

- **Languages:** Python (NumPy, Pandas, SciPy, Matplotlib), SQL, Mathematica, C++
- **Statistical Analysis:** Hypothesis Testing, Regression, Confidence Levels, Probability Theory, A/B Testing
- **Mathematics:** Linear Algebra, Differential Equations, Complex Analysis
- **Tools:** L<sup>A</sup>T<sub>E</sub>X, Git, Docker, Kubernetes