

Aditya Gadam

Ph.D. Candidate

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Education

- 2021–Present **Ph.D. in Physics (GPA: 4.00)**, *UC Santa Cruz*, Santa Cruz, U.S.A
2019–2020 **M.Sc. in Physics (GPA: N/A)**, *UC Santa Cruz*, Santa Cruz, U.S.A
2015–2018 **B.Sc. cum laude in Honors Physics (GPA: 3.84)**, *UC San Diego*, San Diego, U.S.A
2015–2018 **B.Sc. cum laude in Mathematics-Economics (GPA: 4.00)**, *UC San Diego*, San Diego, U.S.A

Professional Experience

- 2019–Present **Teaching Assistant**, *UC Santa Cruz*, Santa Cruz, U.S.A
Experience with conducting lectures, discussions, tutoring sessions, office hours and creating material for several upper and lower division courses and labs.
- 2019–Present **Graduate Student Researcher**, *Santa Cruz Institute for Particle Physics*, Santa Cruz, U.S.A
Research on fundamental particle physics, with a focus on flavor and rare decays. For details, please see publications and selected talks.
- 2019–2019 **Research Engineer Associate**, *Siemens Digital Industries Software*, Leuven, Belgium
Performed venture research into Reinforcement Learning (RL) and Machine Learning algorithms for controlling engineering systems and components. Implemented Neural Network based learning at 89% efficiency, built dynamic decision making RL agents to solve lack of dynamic control, and created plotting routines to demonstrate the comparative learning of various algorithms for visualizations and tutorials.
- 2017–2018 **Teaching Assistant**, *UC San Diego*, San Diego, U.S.A
Teaching assistant and grader for lower and upper division physics and math courses.
- 2015–2015 **Intern**, *Institute of High Performance Computing - A*STAR*, Singapore, Singapore
Research on sustainable power sources and feasibility in Singapore. Delved into cost-benefit analyses of implementing and deploying various solar energy solutions and green initiatives for thermo-regulation and clean air sustainability.

Skills, Certifications and Other Projects

Programming: Python, R, Mathematica, SQL, MatLab, GitHub, Excel, Word, Powerpoint, Jupyter
Libraries: SciPy, Tensorflow, Statsmodels, Matplotlib, Seaborn, Scikit-Learn/Optimize, Pandas, fredapi, PyWavelets

Machine Learning: Reinforcement Learning, MCMC, Multi-dimensional Model Likelihood Optimization, Gaussian Processes, Time Series Analysis, Advanced Regression Techniques

Quantitative: Predictive Numerical Modeling, Stochastic Differential Equations, Bayesian Inference, Dynamical Systems

Select Certifications: Erdos Institute Data Science Bootcamp, Python: Data Science, Bayesian Statistics, Portfolio Optimization, SQL for Data Science

Languages: English (Fluent), Telugu (Native), Hindi (Intermediate)

Publications

Per the standard in particle physics, the author lists of publications are alphabetical. I am the primary author of (W.2), (P.2), (P.4) and (P.5).

Peer Reviewed Publications

- 2025 (P.5) **Wolfgang Altmannshofer, Sri Aditya Gadam, Kevin Toner**, "New Strategies for New Physics Search with $\Lambda_b \rightarrow \Lambda \nu \bar{\nu}$ Decays", APS Physical Review D (Particles, Fields, Gravitation, Cosmology), Passed Peer Review - To be Printed
- 2023 (P.4) **Wolfgang Altmannshofer, Sri Aditya Gadam, Stefano Profumo**, "Probing new physics with $\mu^+ \mu^- \rightarrow bs$ at a muon collider", APS Physical Review D (Particles, Fields, Gravitation, Cosmology), vol. 108, no. 115033, 2023.
- 2021 (P.3) **Wolfgang Altmannshofer, Sri Aditya Gadam, Stefania Gori, Nick Hamer**, "Explaining $(g - 2)_\mu$ with multi-TeV sleptons", Journal of High Energy Physics, vol. 2021, no. 118, 2021.
- 2020 (P.2) **Wolfgang Altmannshofer, Sri Aditya Gadam**, "Supersymmetric flavor clockwork model", APS Physical Review D (Particles, Fields, Gravitation, Cosmology), vol. 104, no. 035030, 2021.
- 2019 (P.1) **Bartosz Fornal, Sri Aditya Gadam, Benjamín Grinstein**, "Left-Right SU(4) Vector Leptoquark Model for Flavor Anomalies", APS Physical Review D (Particles, Fields, Gravitation, Cosmology), vol. 99, no. 055025, 2019.

Whitepapers

- 2022 (W.2) **Wolfgang Altmannshofer, Sri Aditya Gadam, Stefano Profumo**, "Snowmass White Paper: Probing new physics with $\mu^+ \mu^- \rightarrow bs$ at a muon collider", Snowmass 2021.
- 2021 (W.1) **Bose et. al**, "Report of the Topical Group on Physics Beyond the Standard Model at Energy Frontier for Snowmass 2021", Snowmass 2021.

Selected Talks and Presentations

- 2024 Dark and Heavy New Physics in $b \rightarrow s \nu \nu$ decays, University of Pittsburgh, Division of Particles and Field Meeting and Phenomenology Symposium, Pittsburgh, U.S.A.
- 2024 Highly suppressed (Rare) b -quark processes, Chulalongkorn University, 22nd Conference on Flavor Physics and CP Violation, Bangkok, Thailand.
- 2024 Probing new physics with $\mu^+ \mu^- \rightarrow bs$ at a muon collider, American Physical Society April Meeting, Sacramento, U.S.A.
- 2023 Probing new physics with $\mu^+ \mu^- \rightarrow bs$ at a muon collider, University of Pittsburgh, Phenomenology Symposium, Pittsburgh, U.S.A.
- 2023 A Supersymmetric Flavor Clockwork, Virtual - Brookhaven National Lab, Brookhaven Forum, Upton, U.S.A.
- 2021 A Supersymmetric Flavor Clockwork, Online, The XXVII International Conference on Supersymmetry and Unification of Fundamental Interactions, -, -.
- 2021 A Supersymmetric Flavor Clockwork, Virtual - University of Pittsburgh, Phenomenology Symposium, Pittsburgh, U.S.A.

Professional Memberships and Service

- 2024–Present **Member**, *American Physical Society*
- 2023–Present **Chair of Council**, *Graduate Student Association of UC Santa Cruz*
Organized Graduate Tax Workshops, facilitated Board and Council meetings, advocacy for underrepresented students via Cal-Bridge, liaison for external review on digital accessibility
- 2022–2023 **Department Representative**, *Department of Physics - UC Santa Cruz*
Advocacy for graduate student housing and international student issues
- 2022–2023 **Historian**, *Santa Cruz Organization for Outreach in Physics*
Organized a book club at the SC Public Library, hosted the Senior Thesis Fair, recruiting and volunteering for various events; current member
- 2020–Present **Mentor**, *Society of Physics Students*
Mentoring multiple students, advised on course planning, connected them to research projects, and coached successful Ph.D. program applications
- 2016–2016 **Volunteer Intern**, *Office of Academics - Gompers Preparatory Academy*
Provided technological assistance at the IT office, tutored for AP Physics and AP Math, helped set up for after-school events

Awards and Honors

- 2024 Graduate Dean's Travel Award - UC Santa Cruz
- 2024 Marilyn Stevens Scholarship, Department of Physics - UC Santa Cruz
- 2024 Chancellor's Dissertation Year Fellowship, UC Santa Cruz
- 2024 APS Travel Award, American Physical Society
- 2023 Regents Fellowship, UC Santa Cruz
- 2020 Regents Fellowship, UC Santa Cruz
- 2018 Dean's Undergraduate Award for Excellence, UC San Diego
- 2018 Department Honors, Department of Physics - UC San Diego
- 2014 Sports Excellence Award, Global Indian Int'l School
- 2014 Most Convincing Pitch Award, Young Mayor Competition - Activistar
- 2013 ICE Distinction Award, Cambridge IGCSE