Adhithya Bhaskar

Computational reproducibility • Automated research pipelines • LLM evaluation

adhi.dev • adhithyab • adbX • adhithya@usc.edu

Education

University of Southern California Expected May 2027
Ph.D. Candidate in Industrial and Systems Engineering
Coursework: Applied Generative AI for enterprises; Advanced NLP; Design for User Experience

University of Illinois at Urbana-Champaign December 2020
B.S. in Mechanical Engineering with a Minor in Computer Engineering

Research & Technical Experience

Doctoral Research - Reproducible Research Systems & AI Evaluation Los Angeles, CA
University of Southern California May 2021 - Present

- Created `ReproReady`, designed and built its *readiness* score, and led a study of NeurIPS artifacts from 2010-2025 estimating how much manual reproduction work they remove rather than predicting whether their code will run
- Building `ReproReady`'s local, offline, deterministic static checker that does not execute submitted code and directs researchers to files and code that may require manual inspection
- Built automated arXiv parsing and text-extraction pipelines and benchmarked GPT-4 and keyword search against manual labels for 50 ML preprints under a one-year REAL@USC-Meta Center fellowship, resulting in the open-source tool `Reproscreener` and a first-author publication at ACM REP 2024

Scientific Solutions Engineering Intern Urbana, IL
Flywheel.io May 2022 - August 2022

- Built signal-processing and filtering stages used to extract cardiac physiological response functions from raw fMRI data
- Containerized Python, MATLAB, and Bash extraction workflows with Docker for parallel execution, reducing runtime by over 60%

Research Intern (SPIN) Urbana, IL
National Center for Supercomputing Applications June 2017 - July 2019

- Identified reproducibility barriers by assessing code and data access across 306 Journal of Computational Physics articles and conducting hands-on reproduction studies of seven; coauthored three publications
- Built scientific tests, CI workflows, and standardized Reproduction Packages that automated parameter testing, plot generation, and result validation across seven computational-physics studies

Selected Publications

- Reproscreener: Leveraging LLMs for Assessing Computational Reproducibility of Machine Learning Pipelines. **Adhithya Bhaskar**, Victoria Stodden. ACM REP, 2024 DOI
- Learning from reproducing computational results: introducing three principles and the Reproduction Package. Matthew S. Krafczyk, August Shi, **Adhithya Bhaskar**, et al. Phil. Trans. R. Soc. A, 2021 DOI
- Scientific Tests and Continuous Integration Strategies to Enhance Reproducibility in the Scientific Software Context. Matthew Krafczyk, August Shi, **Adhithya Bhaskar**, et al. ACM P-RECS, 2019 DOI

Teaching & Technical Skills

- Jenny Wang Excellence in Teaching Award (2023, 2026); Outstanding Teaching Assistant of the Year (2023, 2026)
- Created an R-based Predictive Analysis project combining asynchronously trained trees into one random forest
- Designed and taught Human Factors Engineering labs and assignments on topics including UI/UX for web-interface design
- **Core tools:** Python, R, SQL, Bash, MATLAB; Docker, Git, Snowflake, GCP, AWS