Amit Kiran Rege

ML Researcher • Phonely

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EDUCATION

University of Colorado Boulder Aug 2020 – May 2026
Ph.D. in Computer Science • Advisor: Claire Monteleoni

University of Colorado Boulder Aug 2018 – 2020
M.S. in Computer Science • GPA 4.0/4.0

Birla Institute of Technology and Science (BITS), Pilani – Goa Aug 2014 – Feb 2018
B.E. (Hons.) Computer Science • GPA 8.28/10

RESEARCH INTERESTS

Reinforcement Learning and Human-AI collaboration broadly construed:

- Reinforcement Learning for LLM Post-Training
- Foundational RL Theory
- Theoretical Foundations of Interpretability

PUBLICATIONS

- **Learning from Local Walks on Dynamic Graphs with Bandit Feedback**. **Amit Kiran Rege***, Sourav Chakraborty*, Claire Monteleoni, Lijun Chen. *IEEE Conference on Decision and Control (CDC)*, 2026. [Link]
- **Multi-Agent Lipschitz Bandits**. **Amit Kiran Rege***, Sourav Chakraborty*, Claire Monteleoni, Lijun Chen. *AISTATS*, 2026. [Link]
- **Flickering Multi-Armed Bandits**. **Amit Kiran Rege***, Sourav Chakraborty*, Claire Monteleoni, Lijun Chen. *L4DC*, 2026. *[Best Paper Finalist] [Oral]* [Link]
- **A Unified Framework for Locality in Scalable MARL**. **Amit Kiran Rege***, Sourav Chakraborty*, Claire Monteleoni, Lijun Chen. *L4DC*, 2026. [Link]
- **Incentivized Lipschitz Bandits**. **Amit Kiran Rege***, Sourav Chakraborty*, Claire Monteleoni, Lijun Chen. *IEEE Conference on Decision and Control (CDC)*, 2025. [Link]
- **Where Did Your Model Learn That? Label-free Influence for Self-Supervised Learning**. **Amit Kiran Rege***, Nidhin Harilal*, Reza Akbarian Bafghi, Maziar Raissi, Claire Monteleoni. *Preprint*, 2024. [Link]
- **Influence Estimation in Self-Supervised Learning**. **Amit Kiran Rege***, Nidhin Harilal*, Reza Akbarian Bafghi*, Maziar Raissi, Claire Monteleoni. *SSL: Theory and Practice Workshop, NeurIPS*, 2024. [Link]
- **The Probe Paradigm: A Theoretical Foundation for Explaining Generative Models**. **Amit Kiran Rege**. *SafeGenAI Workshop, NeurIPS*, 2024. [Link]
- **Hamiltonian Learning using ML Models Trained with Continuous Measurements**. **Amit Kiran Rege**, Kris Tucker, Conor Smith, Claire Monteleoni. *ML for Physical Sciences Workshop, NeurIPS*, 2024. [Link]
- **Hamiltonian Learning using ML Models Trained with Continuous Measurements**. Kris Tucker, **Amit Kiran Rege**, Conor Smith, Claire Monteleoni, Tameem Albash. *Physical Review Applied*, 2024. [Link]
- **Evaluating the Distribution Learning Capabilities of GANs**. **Amit Kiran Rege**, Claire Monteleoni. *Preprint*, 2019. [Link]

PRESENTATIONS

Invited & Industry Talks

- **The Role of Generator Access in Autoregressive Post-Training** — Lightning Talk, Frontiers of Online RL Workshop, IMSI — Mar 2026
- **Training Local LLMs** — Spencer Fane (Industry Talk) — Mar 2026
- **Frontiers of Generative AI** — Ensemble Innovation Ventures (Industry Talk) — Jan 2026
- **LLMs from Scratch** — Spencer Fane (Industry Talk) — Nov 2025
- **Theoretical Machine Learning** — "Ross Kaminsky on the News," KOA 94.1 FM iHeartRadio — Jan 2025
- **Deep Learning for Crosstalk Detection in Quantum Systems** — NSF Q-SEnSE Annual Meeting — Jun 2022

Posters

- **An Oracle Taxonomy for LM Post-Training** — Information Theory & Applications (ITA) Workshop, San Diego — Feb 2026
- **Replicable Learning in Quantum Systems** — Quantum Information Processing (QIP) — 2025
- **Theoretical Foundations and Novel Metrics for Comprehensive Evaluation of Multimodal Generative Models** — Multimodal AI Workshop, TTIC — 2024

Guest Lectures

- **Practical Aspects of ML** — CSCI 4622 Machine Learning (Prof. Velasquez) — Spring 2026
- **Tutorial & Survey on GANs** — CSCI 5802 Data Science (Prof. Frongillo) — Spring 2022
- **Tutorial & Survey on GANs** — CSCI 7000 Advanced ML (Prof. Monteleoni) — Fall 2021

EXPERIENCE

ML Researcher, Phonely — Sep 2026 – Present

- Train and deploy voice agents to customers handling millions of calls a month.

Investment Associate, Deming Center Venture Fund — Apr 2025 – May 2026

- Source companies, meet founders, and evaluate investments for CU Boulder's student venture fund.
- Led the investment into Great Sky, an AI-chip company — the highest valuation in the fund's history ($50M).

Student Engineer, Team MARBLE — DARPA Subterranean Challenge — May 2019 – Aug 2019
Advised by Prof. Christoffer Heckman

- Designed and implemented the object detection and localization pipeline for robots exploring mines in total darkness.
- Placed 4th of 11 teams worldwide for objects localized (field included NASA JPL, CMU, UPenn).

Research Intern, École Normale Supérieure — Feb 2018 – Jul 2018
Advised by Prof. Cezara Dragoi

- Studied verification of state-machine replication protocols (Raft, Viewstamped Replication).
- Implemented and formally verified the round-based synchronicity of these asynchronous protocols.

Research Intern, Chennai Mathematical Institute — Aug 2017 – Dec 2017
Advised by Prof. Narayan Kumar

- Surveyed program analysis: abstract interpretation, separation logic, and concurrency analysis.

TEACHING

Instructor

- CSCI 1300 — Computer Science 1: Starting Computing — Summer 2022, 2024

- CSCI 3104 — Algorithms Summer 2023

Teaching Assistant

CSCI 4622 Machine Learning, CSCI 2400 Computer Systems, CSCI 2270 Data Structures, CSCI 5922 Neural Networks & Deep Learning, CSCI 1300 Intro Computing, CS F111 Intro to C (2015–2026).

SERVICE

Reviewing

ICLR (2019 Emergency, 2020, 2022–2025), NeurIPS (2021–2024), ICML (2022, 2024), AAAI 2025, JMLR 2026.

- Founder & Organizer, ML Tea, CS Department.
- Student Representative, CS Graduate Committee (2020–21) and Council for Q-SEnSE (NSF QLCI).
- Student Coordinator, CLIMB group (2020–22); Student Volunteer, COLT 2021.

HONORS & ACHIEVEMENTS

- **CS Department Outstanding Research Paper Award**, University of Colorado Boulder 2026
- **Semi-finalist**, National Ethics Case Competition (NECC), Washington DC — "Most Innovative Solutions" Award 2026
- **Finalist**, Interdisciplinary Ethics & Technology Competition 2025
- Engineering entrance rank 2432 of ∼1.3 million students; top 1% in state-level high-school exams.