Nachiket Kotalwar

Contact Information

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nachiketdk.github.io

Education

Carnegie Mellon University 2025 – Present
Ph.D. student, Language Technologies Institute, School of Computer Science
Advisor: Prof. Carolyn Rosé | GPA: 4.06/4

Birla Institute of Technology and Science (BITS), Pilani 2020 – 2024
B.E. Computer Science, India | GPA: 9.9/10

Research Interests

I study human-AI interaction and the capabilities and reliability of AI agents. My goal is to enable effective human-AI collaboration. Applications of my work include AI-assisted software engineering and STEM education.

Experience

Graduate Research Assistant 2025 – Present
Carnegie Mellon University
Learning, personalization, and coordination for effective human-AI collaboration.

Pre-doctoral Researcher 2024 – 2025
Max Planck Institute for Software Systems
Human-feedback-driven alignment of language models for personalization and programming feedback.

Research Intern 2022 – 2023
Max Planck Institute for Software Systems
K-12 programming education platform design, classroom deployment, and education research support.

Software Engineering Intern 2023
Google
Monitoring infrastructure for Google Cloud storage backup systems.

Awards & Fellowships

Amazon Nova AI Challenge: Trusted Software Agents 2026
Selected to co-lead Carnegie Mellon University's team, one of 10 university teams chosen worldwide, supported by a $250,000 research grant.

Undergraduate Research Fellowship 2024
Max Planck Institute for Software Systems
Selected for a fully funded undergraduate thesis research visit in Germany.

BITS Merit Scholarship 2020 – 2024
Awarded a $24,000 full undergraduate tuition scholarship for consistently ranking in the top 1%.

Preprints

Exploring Visual Access and Proactive AI Tutoring for Handwritten Mathematics
N. Kotalwar, C. Borchers, S. Gandhi, P. S. Purkayastha, D. Yaron, C. P. Rosé.
arXiv:2610.26411 · 2026

Ulysses: A Security Harness For Synthesizing Verifiable Web Exploits
A. Oke, A. V. Duarte, R. Melo, S. Gandhi, **N. Kotalwar**, C. Khandor, D. Wang, C. Rosé, L. Li.
arXiv:2610.31831 · 2026

Self-Evolving Static Analysis via LLM Pseudo-Labeling
R. Melo, A. Duarte, A. Oke, S. Gandhi, **N. Kotalwar**, R. Abreu, L. Li, C. Rosé.
arXiv:2610.30184 · 2026

ABSENTIA: Detecting Broken Access Control Vulnerabilities in Web Applications
A. V. Duarte, A. Oke, R. Melo, S. Gandhi, **N. Kotalwar**, C. Khandor, D. Wang, A. L. Oliveira, C. Rosé, L. Li.
arXiv:2610.00977 · 2026

Publications

* *Equal contribution.*

Hybrid-Gym: Training Coding Agents to Generalize Across Tasks
Y. Xie, E. Liu, G. Zhang, **N. Kotalwar**, S. Gandhi, S. Acharya, X. Wang, C. Rosé, G. Neubig, D. Fried.
ICML 2026

Evaluating Code Slop in Long-Horizon Coding Agents
S. Gandhi*, S. Agarwal*, **N. Kotalwar***, A. Naik.
COLM 2026 Workshop on Agent Behavior (WAB)

Searching for Synergy in Shared Workspace Human-AI Collaboration
N. Kotalwar, R. Das, C. Rosé.
ICML 2026 Workshop on Human-AI Co-Creativity

Inference-Time Personalized Alignment with a Few User Preference Queries
V. A. Pădurean, P. Kamalaruban, **N. Kotalwar**, A. Gotovos, A. Singla.
NeurIPS 2025

Humanizing Automated Programming Feedback: Fine-Tuning Generative Models with Student-Written Feedback
V. A. Pădurean, T. Phung, **N. Kotalwar**, M. Liut, J. Leinonen, P. Denny, A. Singla.
Educational Data Mining (EDM) 2025

Hints-In-Browser: Benchmarking Language Models for Programming Feedback Generation
N. Kotalwar, A. Gotovos, A. Singla.
NeurIPS 2024 Datasets & Benchmarks Track

Projects

Hints-In-Browser 2024
In-browser LLM feedback generation for programming education. Built a web platform and trained compact language models to deliver local programming feedback to students, avoiding server-side code submission for privacy and cost benefits.

BlocksAndPython 2022 – 2023
Visual programming platform for K-12 Python education. Designed and developed a platform for learning Python and block-based programming, used in research studies and by educators across schools in Estonia. Presented at the Google Blockly Summit, 2024.

Teaching Positions

Foundations of Computational Data Science 2026
CMU, Teaching Assistant.

Generative AI 2024 – 2025
MPI-SWS, Teaching Assistant.

Code in Place 2024
Stanford University (Remote), Section Leader.

Microprocessors and Interfacing 2022
BITS Pilani, Teaching Assistant.

Object Oriented Programming 2021
BITS Pilani, Teaching Assistant.

Postman Classroom Program 2021
BITS Postman Lab, Teaching Assistant.

Research Mentoring

Partha Sarathi Purkayastha, ETH Zürich

Rohini Das, Carnegie Mellon University

Academic Service

Program Committee

CHI	2027
NeurIPS	2025, 2026
Educational Data Mining (EDM)	2026
ICML Workshop on Human-AI Co-Creativity	2026

Skills

Programming: Python, C/C++, TypeScript/JavaScript, Bash, SQL
Tools: PyTorch, Hugging Face Transformers, vLLM, verl, NumPy, Pandas, FastAPI, Flask, Django, Node.js, React, Docker, Git