

ABHIJNAN NATH

(970)-825-9991

abhijnan.nath@colostate.edu

[linkedin.com/in/abhijnan-nath-737727169](https://www.linkedin.com/in/abhijnan-nath-737727169)

github.com/AbhijnanNath

EDUCATION

PhD in Computer Science | *AI/NLP/4.0 GPA*

Colorado State University, Fort Collins

Advisor: Dr. Nikhil Krishnaswamy

Jan '23 – June 2025 (*Expected*)

Fort Collins, CO

MS in Computer Science | *AI/NLP*

Colorado State University, Fort Collins

Advisor: Dr. Nikhil Krishnaswamy

Jan '21 – Dec '22

Fort Collins, CO

Master of Science | *Physics*

Birla Institute of Technology and Science, Pilani

Aug '09 – Aug '13

Pilani, India

WORK EXPERIENCE

PhD Research Intern

Optum AI/UnitedHealth Group

- LLM Post-training: Preference Alignment in LLMs with Supervised Learning
- Developed novel alignment algorithms for Diverse Preference Learning on medical data

May '24 – Oct '24

Remote Role

LLM Research Intern

Sprouts AI

- Designed, optimized, and productionized various LLM pipelines for personalized outreach
- Productionized in-context learning frameworks using sequencing platforms like Langchain and Knowledge-Retrieval systems with RAG, Transformer architectures, and knowledge-bases

May '23 – Aug '23

Remote Role

Graduate Research Assistant

Signal Lab, CSU, DARPA-AIDA collaboration with CU Boulder

- Developed Information-Theoretic approaches and algorithms in developing frictive LLM agents in collaborative games.
- Developed end-to-end pipeline for neural (embedding-based and lexical) CDCR for events and entities
- Developed LLM alignment pipelines for distribution-based knowledge distillation at scale
- Designed and implemented the affine-mapping based semantic transfer pipeline between various BERT-type Language Models (LM) and vision transformers to enhance multimodal-CDCR
- Awarded Travel Support for NAACL '24 (Mexico City), LREC-COLING '24 (Turin, Italy), ACL '23 (Toronto, Canada) and COLING '22 (Gyeongju, South Korea)

Dec '21 – Present

On-campus

Machine Learning Engineer

Natural Resource Ecology Lab, CSU and Jackson Lab, Stanford University

- Built first-ever production-level LSTM model pipelines to predict Nitrous Oxide levels for Australian agricultural sites
- Collaborated with the Jackson Lab crew at Stanford University to analyze the importance of various covariates in predicting N2O

Jan '21 – Aug '21

On-campus

HONORS AND AWARDS

Evolutionary Computing and Artificial Intelligence Graduate Fellowship 2024

Department of Computer Science, Colorado State University, Fort Collins

Best Student Paper Award at Educational Data Mining (EDM) 2024

PhD Candidacy with Distinction, December 2024

Colorado State University

- 1. Simultaneous Reward Distillation and Preference Learning: Get You a Language Model Who Can Do Both**
Abhijnan Nath, Changsoo Jung, Ethan Seefried, Nikhil Krishnaswamy
(Under Review). [preprint](#)
- 2. DPL: Diverse Preference Learning Without A Reference Model**
Abhijnan Nath, Andrey Volozin, Saumajit Saha, Albert Aristotle Nanda, Galina Grunin, Rahul Bhotika, Nikhil Krishnaswamy
(Under Review). [preprint](#)
- 3. “Any Other Thoughts, Hedgehog?” Linking Deliberation Chains in Collaborative Dialogues**
Abhijnan Nath, Videep Venkatesha, Mariah Bradford, Avyakta Chelle, Austin Collin Youngren, Carlos Mabrey, Nathaniel Blanchard, Nikhil Krishnaswamy.
(Accepted at Findings of EMNLP 2024). [paper](#)
- 4. Okay, Let’s Do This! Modeling Event Coreference with Generated Rationales and Knowledge Distillation**
Abhijnan Nath, Shadi Manafi, Avyakta Chelle, and Nikhil Krishnaswamy.
(Oral, Accepted at NAACL Main 2024). [paper](#)
- 5. Multimodal Cross-Document Event Coreference Resolution Using Linear Semantic Transfer and Mixed-Modality Ensembles**
Abhijnan Nath, Huma Jamil, Shafiuddin Rehan Ahmed, George Baker, Rahul Ghosh, James H. Martin, Nathaniel Blanchard, and Nikhil Krishnaswamy.
(Accepted at LREC-COLING 2024). [paper](#)
- 6. Propositional Extraction from Natural Speech in Small Group Collaborative Tasks**
Videep Venkatesha, Abhijnan Nath, Ibrahim Khebour, Avyakta Chelle, Mariah Bradford, Jingxuan Tu, James Pustejovsky, Nathaniel Blanchard, and Nikhil Krishnaswamy
(Best Paper Award at EDM 2024).
- 7. AxomiyaBERTa: A Phonologically-aware Transformer Model for Assamese**
Abhijnan Nath, Sheikh Mannan, and Nikhil Krishnaswamy
(Accepted at Findings of ACL 2023). [paper](#)
- 8. $2*n$ is better than n^2 : Decomposing Event Coreference Resolution into Two Tractable Problems**
Shafiuddin Rehan Ahmed, Abhijnan Nath, James H. Martin, and Nikhil Krishnaswamy
(Accepted at Findings of ACL 2023). [paper](#)
- 9. How Good is the Model in Model-in-the-loop Event Coreference Resolution Annotation?**
Shafiuddin Rehan Ahmed, Abhijnan Nath, Michael Regan, Adam Pollins, Nikhil Krishnaswamy, and James H. Martin
(Accepted at the Linguistic Annotation Workshop, ACL 2023). [paper](#)

10. **A Generalized Method for Automated Multilingual Loanword Detection**

Abhijnan Nath, Sina Mahdipour Saravani, Ibrahim Khebour, Sheikh Mannan, Zihui Li, and Nikhil Krishnaswamy

(Accepted at COLING 2022) [paper](#)

11. **Phonetic, Semantic, and Articulatory Features in Assamese-Bengali Cognate Detection**

Abhijnan Nath, Rahul Ghosh, and Nikhil Krishnaswamy

(Accepted at VarDial 2022) [paper](#)

12. **Linear Mappings: Semantic Transfer from Transformer Models for Cognate Detection and Coreference Resolution**

Abhijnan Nath

MS Thesis. Colorado State University, 2022. [paper](#)

TEACHING EXPERIENCE

Graduate Teaching Assistant

CS 445: Introduction to Machine Learning

Spring 2024

Colorado State University

Graduate Teaching Assistant

CS 542: Natural Language Processing

Fall 2023

Colorado State University

Graduate Teaching Assistant

CS 320: Algorithm Theory and Practice

Fall 2021

Colorado State University

COMMUNITY INVOLVEMENT

Program Committee Member

NeurIPS, ICLR 2025, ACL-ARR, EMNLP, COLING, LREC, CogSci, RepL4NLP

Graduate Student Representative

CS Department, Colorado State University

- Represented graduate student interests in departmental meetings and conducted social events for holistic development of graduate student experience

Mentor

CS Department, Colorado State University

- Guided high-school and undergraduate students that lead to research papers in top AI/NLP conferences
- Videep Venkatesha: MS student, Colorado State University
- Avyakta Chelle: MS student, Colorado State University
- Rahul Ghosh: Freshman student, Purdue University
- Carine Graff: PhD student, Colorado State University
- Andrei Bachinin: PhD student, Colorado State University

Mentor

Academy of Civil Services, Dibrugarh, Assam

- Organized skill development workshops for underprivileged student groups in marginalized communities
- Conducted teaching programs for students in need of educational assistance for civil services preparation
- Facilitated partnerships with local voluntary organizations to provide comprehensive support services for marginalized students, including mentorship and counseling

Founder

Society for Changing Lives through Aspiring Youths (SoChLAY)

- Spearheaded the CuppaTea initiative to promote cultural exchange among international students from the Global South studying in Dibrugarh University, Assam (India)
- Hosted international student interviews to create inclusive platforms for shared narratives and cross-cultural solidarity

SKILLS

Programming Languages: Python, MATLAB, C/C++, Java, LaTeX, Bash Scripting

Machine Learning: Scikit-learn, TensorFlow, Keras, PyTorch

Natural Language Processing: NLTK, SpaCy, Transformers, Hugging Face

Data Analysis: Pandas, NumPy, SciPy, Matplotlib, Seaborn

Version Control: Git, GitHub, GitLab

REFERENCES

Dr. Nikhil Krishnaswamy

Assistant Professor of Computer Science, Colorado State University, Fort Collins

Dr. James H. Martin

Professor of Computer Science and Fellow in the Institute of Cognitive Science at the University of Colorado at Boulder

Dr. Martha S. Palmer

Arts and Sciences Professor of Distinction for Linguistics, University of Colorado Boulder

Dr. Nathaniel Blanchard

Assistant Professor of Computer Science, Colorado State University, Fort Collins

Dr. Charles W. Anderson

Professor of Computer Science, Colorado State University, Fort Collins