

Akash Choudhuri

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EDUCATION

- **The University of Iowa** Iowa City, USA
Doctoral Degree: Computer Science; GPA: 3.78/4.0 January 2022 - October 2026 (Expected)
- **The University of Iowa** Iowa City, USA
Master of Science: Computer Science; GPA: 3.76/4.0 January 2022 - December, 2024
- **Institute of Mathematics and Applications** Bhubaneswar, India
Master of Science: Mathematics with Data Science; GPA: 8.70/10 July 2019 - July 2021
- **Birla Institute of Technology** Mesra, India
Bachelor of Science: Mathematics and Computing; GPA: 8.0/10 July 2016 - June 2019

PUBLICATIONS

- **Akash Choudhuri, Bijaya Adhikari:** Learning Robust Hypergraph Embeddings for Distribution-Free Uncertainty Quantification, Accepted at KDD 2026
- **Akash Choudhuri, Yongjian Zhong, Bijaya Adhikari:** Implicit Hypergraph Neural Network, In Proceedings of The IEEE BigData Conference, 2025.
- **Akash Choudhuri, Hieu Vu, Kishlay Jha, Bijaya Adhikari:** Domain Knowledge Augmented Contrastive Learning on Dynamic Hypergraphs for Improved Health Risk Prediction, In Proceedings of The 25th SIAM International Conference on Data Mining (SDM), 2025.
- **Akash Choudhuri, Yongjian Zhong, Mehrdad Moharrami, Christine Klymko, Mark Heimann, Jayaraman Thiagarajan, Bijaya Adhikari:** Conformal Edge-Weight Prediction in Latent Space, In Proceedings of The 25th SIAM International Conference on Data Mining (SDM), 2025.
- **Jeffrey Keithley, Akash Choudhuri, Bijaya Adhikari, Sriram Pemmaraju:** Analyzing greedy vaccine allocation algorithms for metapopulation disease models, In PLOS Computational Biology, 2025.
- **Akash Choudhuri, Philip M. Polgreen, Alberto M. Segre, Bijaya Adhikari:** Summarizing Clinical Notes using LLMs for ICU Bounceback and Length-of-Stay Prediction, In Proceedings of 12th Data Mining in Biomedical Informatics and Healthcare (DMBIH '24) Workshop at The IEEE International Conference on Data Mining, 2024.
- **Akash Choudhuri, Hankyu Jang, Alberto M. Segre, Philip M. Polgreen, Kishlay Jha, Bijaya Adhikari:** Continually-Adaptive Representation Learning Framework for Time-Sensitive Healthcare Applications, In Proceedings of The 32nd ACM International Conference on Information and Knowledge Management, 2023.
- **Akash Choudhuri:** A Hybrid Machine Learning Model for Estimation of Obesity Levels, In Data Management, Analytics and Innovation: Proceedings of ICDMAI 2022, Springer Nature.

PROFESSIONAL EXPERIENCE

- **Center of Precision Medicine, Marshfield Clinic Research Institute** Marshfield, USA
Summer Graduate Research Intern June 2025 - August 2025
 - **Enhancing the Family Mapping Algorithm:** Fixing existing issues in the current rule-based algorithm and integration of confidence-based addition of supplementary data. Resultant fixes provides **12x** speedup over the previous version. Currently preparing a submission to JAMIA.
 - **Proposing a data-driven Learning Alternative of the Family Mapping Algorithm:** Provided an initial framework for learnable rules to assign individuals to families that can be generalized to healthcare-system specific data using Large Language Models.
- **Lawrence Livermore National Laboratory** Livermore, USA
Intern, Data Science Summer Institute May 2023 - August 2023
 - **Uncertainty Quantification of Weighted Link Prediction in Graphs (Summer Project):** Developed a conformal prediction algorithm to compute the uncertainty bounds of link prediction using GCNs at a feature level.
 - **Cardiac Electrocardiography using Machine Learning (DSSI Challenge Problem):** Created a hybrid model that gave 12% gain in accuracy in the MIT-arrhythmia dataset.
- **Data Sutram** Kolkata, India
Data Scientist July 2021 - December 2021
 - **Optimized Algorithm for Delivery Management Systems:** Created a real-time optimization algorithm to assign orders to delivery executives in last-mile delivery services.
 - **Dynamic Footfall:** Found metrics to compute dynamic footfall of places in India using internet devices ping data.
- **Solytics Partners** Pune, India
Intern and later Consultant (Data Science) April 2020 - July 2021
 - **Financial Model Testing:** Worked on validating a Credit Risk Model of the World Bank and performed additional stress testing experiments.
 - **Auto ML Model:** Worked on creating various pipelines for creating an Auto ML and Deep Learning platform for credit risk scoring.

HONORS AND AWARDS

- **KDD 2026 PhD Forum Oral Presenter:** Selected among accepted students to orally present ongoing work on CP for longitudinal Health Models.
- **University of Iowa Graduate College Post-Comprehensive Research Fellowship Award:** Awarded a sum of \$11,375 for Fall 2025 to independently pursue research interests.
- **NSF-SIAM Travel Award:** Awarded a sum of \$650 with free registration to present works in SDM 2025.
- **UIOWA CS Department Travel Grant:** Awarded a sum of \$600 to present works in CIKM 2023.
- **UIOWA Graduate Student Senate Travel Grant:** Awarded a sum of \$1000 to present works in CIKM 2023.
- **UIOWA Graduate and Professional Student Government Travel Grant:** Awarded a sum of \$400 to present works in CIKM 2023.
- **Focus Areas in Science and Technology Summer Fellowship:** From the Indian Academy of Sciences from May-June, 2019.
- **Summer Research Fellowship:** From the Indian Academy of Sciences, from May to July 2018.

CURRENT SUBMISSIONS

- **Predicting CDI using the text of clinical notes:** In submission, Open Forum Infectious Diseases (OFID).
- **Asking the Right Questions: Adapting LLMs to Leverage Clinical Notes to Improve Clinical Outcome Inference:** In submission, ACL 2026.
- **Conformal Prediction for Longitudinal Health ML Models:** In submission, NeurIPS 2026.

TECHNICAL SKILLS

- **Languages:** Python, JAVA, R, C, MATLAB
- **Frameworks:** Scikit, PyTorch, TensorFlow, Keras, Flask, H3, Pyspark, AWS
- **Tools:** GIT, MySQL

IMPORTANT TALKS

- **CDC MIND Group Meeting 2023:** Presented initial motivations about the integration of clinical notes for CDI incidence prediction and CCMI prediction and presented the results of our paper titled "Continually-Adaptive Representation Learning Framework for Time-Sensitive Healthcare Applications".
- **LLNL Summer Slam 2023:** Presented initial approach to computing uncertainty bounds for weighted link prediction in graphs at the Summer Slam at Lawrence Livermore National Laboratory.
- **Tutorial Series 49th Annual Conference of the Odisha Mathematical Society, 2020:** Presented an introductory tutorial on using ANNs for credit risk estimation.

ACADEMIC SERVICE

- **International workshop on Epidemiology meets Data Mining and Knowledge Discovery (epiDAMIK @ KDD):** PC Member and reviewer for 2022 and 2023 editions.
- **Informatics in Medicine Unlocked (IMU):** Reviewer for the journal in 2022, 2023, and 2024.
- **IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM):** Subreviewer for the 2023 and 2024 editions.
- **IEEE International Conference on Data Engineering (ICDE):** External Reviewer for the 2024 edition.
- **Association for the Advancement of Artificial Intelligence (AAAI):** Subreviewer for the 2021,2022,2023 and 2026 editions.
- **SIAM Conference on Data Mining (SDM):** Subreviewer for the 2021,2022 and 2023 editions.
- **International Joint Conference on Artificial Intelligence (IJCAI):** PC Member for 2026 AI for Social Good Track (Silver Tier Reviewer Distinction). Subreviewer for the 2022 and 2023 editions.
- **ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD):** Reviewer for the 2024 and 2026 editions.
- **ACM CIKM:** Subreviewer for the 2024 edition.
- **The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD):** Subreviewer for the 2025 edition.

REFERENCES

- **Bijaya Adhikari:** Assistant Professor, Department of Computer Science, University of Iowa. bijaya-adhikari@uiowa.edu
- **Sriram Pemmaraju:** Professor, Department of Computer Science, University of Iowa. sriram-pemmaraju@uiowa.edu
- **Alberto Segre:** Chair, Department of Computer Science, University of Iowa. alberto-segre@uiowa.edu