# CHIRAG CHHABLANI

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## EDUCATION

**University of Illinois at Chicago, IL**

Ph.D. Computer Science (Reinforcement leanring and Trust ML)          Aug'18 - Present

Specialization: Reinforcement learning, Trust ML models

**Birla Institute of Technology and Science, Pilani, India**

B.Eng. Electrical and Electronics Engineering          Aug'11 - May'15

M.Eng. Software Systems          Aug'15 - May'17

## PUBLICATIONS

[1] C Chhablani*, K Roy*, M Gaur, "Personalized dialog systems: Combining language models and multi-step reasoning" [Under Preparation]

[2] C Chhablani*, S Jain*, I Kash and S Medya, "Game-theoretic Counterfactual Explanation for Graph Neural Networks" *WWW, 2024*

[3] C Chhablani, V Gurbani, J Hosier and N Sharma, "Digits Micromodel for accurate and secure transactions" *AAAI, 2024.*

[4] C Chhablani and I Kash, "An Analysis of Connections Between Regret Minimization and Actor Critic Methods in Cooperative Settings," *AAMAS*, 2023 (**Long invited talk by Google Deepmind - 4/53 accepted papers**)

[5] C Chhablani, M Sullins and I Kash, "Multiplicative Weights Updates for Extensive Form Games," *AAMAS*, 2023

## EXPERIENCE

**Trustworthy and Intelligent Machine Learning (TIML) Lab, IIT Chicago**

*Trust ML researcher, Mentor: Dr. Ren Wang*          Jan'24 - present

· Proposing certified robustness techniques for dataset poisoning attacks on ML datasets.

· Using variants Mixture of Experts for image and graph datasets to improve exiting state-of-the-art techniques.

**Vail Systems R&D group, Chicago, IL**

*Speech processing & NLP intern, Mentor: Dr. Vijay Gurbani*          June'23 - Aug'23

· Led the creation, cleaning, curation, and annotation of 42+ hours of training data for multi-digits dataset.

· Trained ASR language models for voice-banking applications using kaldi toolkit and achieved 50% lower word-error-rate than open-source models like Open AI's Whisper model.

**Performance Engineering Group, Argonne National Lab, Lemont, IL**

*Statistical ML Forecasting & Analysis intern, Mentor: Dr. Kevin Brown*          May'21 - Aug'21

· Engineered predictive machine learning models to forecast network bandwidth and latency, enhancing data throughput optimization for Aurora supercomputers.

· Developed advanced Quality of Service (QoS) solutions in HPC systems and reduced the bandwidth by 18%.

**Zelle, Early Warning Services, Chicago, IL**

*NLP & Fraud analyst intern, Mentor: Dr. Edwin Campos*          May'19 - Nov'19

· Leveraged BERT and other encoder models for key phrase for over 7K+ Reddit posts. Enhanced model accuracy by 16% compared to baseline approaches.

· Developed fraud detection techniques for more than 30K+ tweets using ML models.

## SKILLS

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| **Languages** | C, Java, Python |
| **Tools** | Pytorch, Tensorflow, Scikit-learn, Git, Linux, Docker, Flask, Pandas, AWS, GCP, LangChain |