

Anuja Tayal

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EDUCATION	University of Illinois, Chicago, United States <i>PhD in Computer Science</i> <ul style="list-style-type: none">• Advisor: Dr. Barbara Di Eugenio• CGPA: 4.0 / 4.0• Relevant Courses: Natural Language Processing, Algorithms, HealthCare/Biomedical NLP, Causal Inference, Graph ML, User Design Research Methodology	Aug 21 - Present
	The LNM Institute of Information Technology, India <i>Bachelor in Computer Science</i>	Aug 11 - May 15
PROJECTS	Medical Text Simplification <ul style="list-style-type: none">• Simplified jargon heavy medical documents to be more comprehensible by patients• To measure difficulty of medical text, different Readability Measures were explored• BART was used to generate simplified sentence by implementing custom loss function	
RESEARCH AND INDUSTRIAL EXPERIENCE	R&D Data Scientist Intern in NLP - PhD, P&G <ul style="list-style-type: none">• Used Dynamic Shot Prompting in ChatGPT to create Suggestion Question Generator• Address the challenge of formulating suggestion questions in low-resource settings taking the help of retrieval augmented system	Jun 23 - Aug 23
	Research Assistant, UIC <ul style="list-style-type: none">• Test out the influence of race on ChatGPT's generated content• Propose a dialogue system that enables heart failure patients to inquire about salt content in foods and help them monitor and reduce salt intake• Conduct an in-depth study involving African American patients with heart failure to compare the performance of our proposed dialog system with a system based on ChatGPT.• Use NeuroSymbolic approaches to design End-to-End Task Oriented Dialog System for heart failure patients• Model different domains that guide heart failure patients from minority communities to take better care of themselves.• Model Bachelor degree attainment to explore bias in educational data• Assess the utility of bias-mitigation techniques to address fairness• Show that models produce unfair outcomes across various notions of fairness.• Bias Mitigation techniques fails to improve fairness across subgroups.	May 22 - Present
	ML Engineer at Intain, India <ul style="list-style-type: none">• Worked on extracting relevant information from diverse, unstructured documents.• Designed and implemented automated deep learning language models to extract key attributes.• Pipeline built can work with limited labelled and incomplete/noisy documents.• Developed a deep learning model to verify customer signature.• Built and Deployed the models on Flask web-app• Designed a Deep Learning model to predict credit risk using financial documents (PnL, Balance Sheet, etc)	Aug 19 - July 21
	Researcher, Indian Institute of Technology (IIT), Indore Mentors: Dr. Neminath Hubballi , Dr. Maitreya Natu	July 16 - Aug 18

- Any unchecked failure/congestion in Computer Networks can bring whole network down.
- Considered the problem of selecting probes to identify faults in computer networks that adapt to traffic dynamics
- Modeled traffic behavior and Detected Malware using flow analysis techniques
- Profiled communication pattern of normal and malicious users by formulating graph based machine learning problem to infer the malicious flows of botnet communications which exhibit uniform behavior otherwise.

Software Developer, R&D Department, AMDOCS, Pune

June 15 - June 16

PUBLICATIONS

Anuja Tayal, Barbara Di Eugenio, Devika Salunke, Andrew D. Boyd, Carolyn A. Dickens, Eulalia P. Abril, Olga Garcia-Bedoya and Paula G. Allen-Meares, A Neuro-Symbolic Approach to Monitoring Salt Content in Food In CL4Health workshop, LREC-COLING'24 ([Accepted](#) March 2024) [[Paper](#)]

Devika Salunke, **Anuja Tayal**, Barbara Di Eugenio, Paula G Allen-Meares, Carolyn A Dickens, Olga Garcia-Bedoya, Eulalia P Abril, Andrew D Boyd, Assessing Bias In ChatGPT's simulated clinical responses In Mitigating AI Risk through Ethical Data Science workshop, AMIA ([Accepted](#) Oct 2023)

Anuja Tayal, Aman Tyagi, Dynamic Contexts for Generating Suggestion Questions in RAG Based Conversational Systems In PromptEng 2024 workshop, WWW ([Accepted](#) March 2024) [[Paper](#)]

Denisa Gandara, Hadis Anahideh,Matthew Ison & **Anuja Tayal**, Inside the Black Box: Detecting and Mitigating Algorithmic Bias across Racialized Groups in College Student-Success Prediction. In Education Researcher ([Submitted](#) Nov 2022) [[Paper](#)]

Anuja Tayal, Neha Sharma, Neminath Hubballi & Maitreya Natu. Traffic Dynamics- Aware Probe Selection for Fault Detection in Networks. In Journal of Network and Systems Management (2020) [[Paper](#)]

Anuja Tayal, Neminath Hubballi, Maitreya Natu & Vaishali Sadaphal. Congestion-Aware Probe Selection for Fault Detection in Networks. In 10th International Conference on Communications Systems and Networks (COMSNETS 2018), Bangalore, India. [[Paper](#)]

Anuja Tayal, Neminath Hubballi, & Nikhil Tripathi. Communication Recurrence and Similarity Detection in Network Flows. IEEE Advanced Networks and Telecommunications System (IEEE ANTS 2017) [[Paper](#)]

TECHNICAL SKILLS

- **Scripting/ML frameworks:** PyTorch, Tensorflow, Keras, NLTK, Spacy, HuggingFace
- **Programming:** Python, R, C/C++
- **Misc:** L^AT_EX, Docker, Flask, MongoDB, Nginx, Git, Unix

ACHIEVEMENTS

- **Reviewer:** LREC-COLING'24
- CRA-WCP Grad Cohort for Women Travel Award **April' 23**
- **Conference Volunteering:** EMNLP'22, EACL'23, NAACL'24
- **Teaching Assistant-** Program Design-II, Languages and Automata **Aug 21-May 22**
- **Teaching Assistant-** Computer Organization and Architecture(COA) **Aug-Dec 10**