

Akanksha Atrey

akanksha.atrey@gmail.com | <https://www.cs.umass.edu/~aatrey> | <https://www.linkedin.com/in/akankshaatrey/>

EDUCATION

University of Massachusetts Amherst <i>Ph.D. in Computer Science</i>	Sep 2017 – Sep 2023
University of Massachusetts Amherst <i>M.Sc. in Computer Science</i>	Sep 2017 – Dec 2020
University at Albany, SUNY <i>B.Sc. Computer Science and Mathematics</i>	Aug 2014 – Dec 2016

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, HTML/CSS, R, SQL
Frameworks/Databases: PyTorch, TensorFlow, Spock, Flask, JUnit, PostgreSQL, MongoDB
Developer Tools: Git, Docker, TravisCI, Visual Studio, PyCharm, Eclipse, Jupyter Notebook, RStudio, Jira

EXPERIENCE

Nokia Bell Labs <i>Research Scientist</i>	Nov 2023 – present
<ul style="list-style-type: none">Designing and developing AI/ML systems, decentralized energy systems, autonomous networks, and Web3 infrastructure.	
University of Massachusetts Amherst <i>Research Assistant</i>	Sep 2017 – Sep 2023
<ul style="list-style-type: none">Designing, developing, and evaluating end-to-end trustworthy and privacy-preserving ML models for edge computing systemsCharacterized and evaluated the generalizability and explainability of deep RL agents using causality techniques	
Adobe Research <i>Research Scientist Intern</i>	May 2022 - Aug 2022
<ul style="list-style-type: none">Empirically evaluated the importance of order in input sequences for novel recommendation problemsDesigned and evaluated a novel end-to-end transformer-based recommender system that employs least squares-based attention with non-linear modeling	
Adobe Research <i>Research Intern - Data Science and Machine Learning</i>	Jul 2021 - Oct 2021
<ul style="list-style-type: none">Conceptualized and evaluated server side privacy of on-device decisioning systemsDesigned an end-to-end on-device decisioning system that preserves both client and server privacy	
IBM Research <i>Research Intern</i>	May 2019 – Aug 2019
<ul style="list-style-type: none">Analyzed the temporal effects of long-term opioid usage on opioid addiction and misuse using survival analysisExplored methods to interact with and process large scale datasets (500GB+)	
IBM <i>Software Engineer</i>	Jan 2017 – Aug 2017
<ul style="list-style-type: none">Implemented and maintained Supervisor and RTM components of the z/OS mainframeCollaborated with enterprise clients (e.g., JPMorgan and Walmart) directly to provide personalized assistance	

SELECT PUBLICATIONS

- [1] **Akanksha Atrey**, Camellia Zakaria, Prashant Shenoy, and Rajesh Balan. W4-Groups: Modeling the who, what, when and where of group behavior via mobility sensing. In *ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW)*, 2024
- [2] **Akanksha Atrey**, Ritwik Sinha, Saayan Mitra, and Prashant Shenoy. SODA: Protecting proprietary information in on-device machine learning models. In *ACM/IEEE Symposium on Edge Computing (SEC)*, 2023
- [3] **Akanksha Atrey**, Ritwik Sinha, Somdeb Sarkhel, Saayan Mitra, David Arbour, Akash Maharaj, and Prashant Shenoy. Towards preserving server-side privacy of on-device models. In *Companion Proceedings of the Web Conference (WWW)*, 2022
- [4] Sam Witty, Jun K. Lee, Emma Tosch, **Akanksha Atrey**, Kaleigh Clary, Michael L. Littman, and David Jensen. Measuring and characterizing generalization in deep reinforcement learning. In *Applied AI Letters*, 2021
- [5] **Akanksha Atrey**, Prashant Shenoy, and David Jensen. Preserving privacy in personalized models for distributed mobile services. In *IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2021
- [6] **Akanksha Atrey**, Kaleigh Clary, and David Jensen. Exploratory not explanatory: Counterfactual analysis of saliency maps for deep reinforcement learning. In *International Conference on Learning Representations (ICLR)*, 2020