AAKRITI KUMAR

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EDUCATION

PhD in Cognitive Science　　　　　　　　　　　　　　　　*2018 - 2023 (expected)*
University of California, Irvine
Advisor: Mark Steyvers

MS in Statistics　　　　　　　　　　　　　　　　　　　*2018 - 2022 (expected)*
University of California, Irvine

BTech in Engineering　　　　　　　　　　　　　　　　　　　　*2011 - 2015*
Indian Institute of Technology, Madras

RESEARCH PROJECTS

Theory of Mind & Theory of Machine
Advisor: Mark Steyvers　　　　　　　　　　　　　*Human-Computer Interaction*
Designed and ran an interactive human subject experiment on Amazon MTurk, using HTML and JavaScript
Developing computational models to capture a human's assessment of their own and another agent's (human/AI) ability

Algorithm Aversion & Metacognitive Bandits
Advisor: Mark Steyvers　　　　　　　　　　　　　*Human-Computer Interaction*
Built new cognitive models of humans' advice seeking behavior when working with an AI assistant
Demonstrated that algorithm aversion, a widely reported bias, can be explained as the result of a quasi-optimal sequential decision-making by the human

Human-AI Complementarity
Advisor: Mark Steyvers　　　　　　　　　　　　　*Human-Computer Interaction*
Carried out a comparative study of human performance, machine predictions and a combination of human and machine predictions on Google's natural questions dataset

Trust between Humans and Machines
Advisor: Mark Steyvers　　　　　　　　　　　　　*Human-Computer Interaction*
Reviewed literature on factors that influence trust between humans and machines

Reliability in Inhibitory Control
Collaboration with Pradeep Shenoy, Google Research - India　*Cognitive Control & Meta-Learning*
Proposed and evaluated recurrent neural network models to learn individual specific parameters in cognitive control task data

Learning and Forgetting in Lumosity Data
Advisor: Mark Steyvers, Aaron Benjamin (UIUC)　　　　　　　　　*Human Learning*
Analysed large-scale game play data from the Lumosity platform and proposed a computational model to characterise learning and forgetting behavior across individuals and cognitive tasks over time

Individual differences in Inhibition
Advisor: Jeff Rouder　　　　　　　　　　　　　　　　　*Cognitive Control*
Developed Bayesian hierarchical models to separate trial noise from other covariation in low signal, high-noise inhibition task data

PUBLICATIONS & PRESENTATIONS

Aakriti Kumar, Trisha Patel, Aaron Benjamin, Mark Steyvers (2021). Explaining Algorithm Aversion with Metacognitive Bandits
Cognitive Science 2021[paper]

Aakriti Kumar, Trisha Patel, Aaron Benjamin, Mark Steyvers (2021). Explaining Algorithm Aversion with Metacognitive Bandits
Workshop on Human-AI Collaboration in Sequential Decision-Making, ICML 2021

Aakriti Kumar, Trisha Patel, Aaron Benjamin, Mark Steyvers (2021). Metacognitive Bandits: When Do Humans Seek AI Assistance?
Social Intelligence in Humans and Robots Workshop, ICRA 2021

Aakriti Kumar, Soumya Chatterjee, Pradeep Shenoy (2021). Meta-learning of Dynamic Policy Adjustments in Inhibitory Control Tasks [In submission]

Jeffrey N. Rouder, **Aakriti Kumar**, Julia M. Haaf (2019). Why Most Studies of Individual Differences With Inhibition Tasks Are Bound To Fail [preprint]

AWARDS AND FELLOWSHIPS

Irvine Initiative in AI, Law, and Society Fellowship 2021	*Total Award: $22,000*
Graduate Dean's Recruitment Fellowship 2018, UCI	*Total Award: $5000*
Recruitment Fellowship Award, 2018, Department of Cognitive Science, UCI	*Total Award: $5000*

TEACHING EXPERIENCE

Teaching Assistant, UC Irvine: Probability and Statistics in Psychology I, II, III	*Fall 2019 - Spring 2020*
Lead Teaching Assistant, UC Irvine: Introduction to Human Memory	*Winter 2019*
Teaching Assistant, UC Irvine: Introduction to Psychology	*Fall 2018*

SKILLS

Programming: Python (pandas, numpy, matplotlib, scikit-learn, pytorch, tensorflow), R, Stan, HTML/CSS

Research Methods: Experiment Design, Computational Cognitive Models, Generalised Linear Models, Bayesian Statistics, Probabilistic Learning, Deep Learning

PROFESSIONAL EXPERIENCE

Research Associate, IIT Madras *Mar'17 - May'18*
Analysed data for consultancy projects involving fraud detection. Modeled supply chain dishonesty arising due to information asymmetry in a principal-agent system

Associate Program Manager, Ola cabs *Jun'15 - Aug'16*
Corporate Strategy & Process Excellence
Ola Store, City Manager (Chennai): Led a team of 40 employees to launch operations of hyper-local delivery services arm
Ola Airport Pickup Process (Bangalore, Mumbai): Designed a process for smooth passenger and driver movement. Worked with the product team to add driver side demand based alert features on the app

MEMBERSHIPS AND SERVICE

Department Colloquium Coordination Committee Member	*2021 - 2022*
Cognitive Science Society Student Member	
Psychonomic Society Student Member	
Contributed to Advancing the Understanding of Attentional Control	*Psychonomics 2018*