Dr. Utkarsh Upadhyay
AI/ML Problem Solver

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Work

Driven by curiosity, I code, crunch data, and create in the AI playground, turning complex problems into elegant solutions. AI's not just my work; it's the future I'm helping to write.

Education

Jan '15 – Dec '22	Ph.D. Candidate at MPI-SWS, supervised by Dr. Manuel Gomez Rodriguez
Sept '09 – Feb '12	M.S. in Computer Science at EPFL, Switzerland, GPA: **5.7/6**
Aug '05 – May '09	B.Tech. in Electrical Engg. at Indian Institute of Technology, Kanpur; CPI: **9.5/10**

Work

Oct '19 – Jan '23	CTO/co-founder at Reason.al
Aug '18 – Nov '18	Academic Research Program Collaborator at Yahoo! Research (Oath Holdings), NY, USA
May '15 – Dec '17	Technical advisor for SpeaQWith.Me in Saarbrücken, Germany
Apr '12 – Dec '14	Data analytics, visualisation and web-client developer at Better AG, Zürich, Switzerland
Aug '10 – Feb '11	Internship at CCIL-NEC, Japan on *Information diffusion on Twitter*
May '08 – July '08	Internship at Microsoft Research, Redmond on *RoboCopy* replacement: *RoboClone*

Academic Honors

2017-19	Yahoo! Academic Research Program (ARP) Collaborator
2016	Travel award for attending KDD '16
2012	Awarded *Prix ECLA Informatique* for highest GPA in Computer Science MS at EPFL
2009-10	Awarded the Academic Excellence scholarship for studying at EPFL
2009	Silver medal at the programming competition ACM-SWERC '09
2005-09	Recipient of the Aditya Birla Scholarship (Given to 10 students all over India)
2005-06	Recipient of the Academic Excellence Award at IITK
2005	Secured 108th rank in Joint Entrance Examination for IITs (Percentile: 99.97%)

Selected Publications

- A. Singh, J. B. Hauge, M. Wiktorsson, **U. Upadhyay**. *Optimizing local and global objectives for sustainable mobility in urban areas*, Journal of Urban Mobility 2022.

- **U. Upadhyay**, G. Lancashire, C. Moser, M. Gomez-Rodriguez. *Large-scale randomized experiment reveals that machine learning-based instruction helps people memorize more effectively*, Nature (npj) Science of Learning 2021.

- P. Virtanen, *et al.* & **U. Upadhyay**. *SciPy 1.0: fundamental algorithms for scientific computing in Python*, Nature Methods 2020.

- **U. Upadhyay**, R. Busa-Fekete, W. Kotlowski, D. Pal, B. Szorenyi. *Learning to Crawl.* **Oral Presentation**, Association for the Advancement of Artificial Intelligence (AAAI) 2020.

- B. Tabibian, **U. Upadhyay**, A. De, A. Zarezade, B. Schölkopf, M. Gomez-Rodriguez. *Enhancing human learning via spaced repetition optimization.* Proceedings of the National Academy of Sciences (PNAS) 2019.

- **U. Upadhyay**, A. De, A. Pappu, M. Gomez-Rodriguez. *On the Complexity of Opinions and Online Discussions.* ACM Int'l Conference on Web Search and Data Mining (WSDM) 2019.

- **U. Upadhyay**, A. De, M. Gomez-Rodriguez. *Deep Reinforcement Learning of Marked Temporal Point Processes.* Conference on Neural Information Processing Systems (NeurIPS) 2018.
- A. Zarezade, A. De, **U. Upadhyay**, H. R. Rabiee, M. Gomez-Rodriguez. *Steering Social Activity: A Stochastic Optimal Control Point of View.* Journal of Machine Learning Research (JMLR) 2018.
- **U. Upadhyay**, I. Valera, M. Gomez-Rodriguez. *Uncovering the Dynamics of Crowdlearning and the Value of Knowledge.* ACM Int'l Conference on Web Search and Data Mining (WSDM) 2017.
- A. Zarezade, **U. Upadhyay**, H. Rabiee, M. Gomez-Rodriguez. *RedQueen: An Online Algorithm for Smart Broadcasting in Social Networks.* ACM Int'l Conference on Web Search and Data Mining (WSDM) 2017.
- S. L. Blond, C. Gilbert, **U. Upadhyay**, M. Gomez-Rodriguez, D. Choffnes. *A Broad View of the Ecosystem of Socially Engineered Exploit Documents.* Network and Distributed System Security symp. (NDSS) 2017.
- **U. Upadhyay**, I. Valera, M. Gomez-Rodriguez. *On Crowdlearning: How do People Learn in the Wild?* Workshop on Machine Learning for Education in Conference on Neural Information Processing Systems (NIPS) 2016.
- N. Du, H. Dai, R. Trivedi, **U. Upadhyay**, M. Gomez-Rodriguez, L. Song. *Recurrent Temporal Point Processes: Embedding Event History to Vector.* ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2016.
- R. Khalili, N. Gast, M. Popovic, **U. Upadhyay**, J.-Y. Le Boudec. *MPTCP is not Pareto-optimal: Performance issues and a possible solution.* **Best Paper Award**, ACM SIGCOMM Int'l Conference on emerging Networking Experiments and Technologies (CoNEXT) 2012.
- G. Mermoud, M. Mastrangeli, **U. Upadhyay**, A. Martinoli. *Real-Time Automated Modeling and Control of Self-Assembling Systems.* IEEE Int'l Conference on Robotics and Automation (ICRA) 2012.

Technical skills

Programming	Python, JavaScript
OSS Contributor	CPython, scipy, scikit-learn, cvxpy, IPython, @first_tmrs_only, ⌂ musically-ut
Languages spoken	English (fluent), Hindi (native), German (B1)

Interests & activities

- My OSS contributions to SciPy and CPython) are on Mars in the Mars Rover '21.
- Invited talk at Yahoo! Research NYC on *RedQueen* in Dec. '17.
- Prizes in puzzle solving and programming competitions:
  - Won Startup Weekend Saarbrüken in May '15 and co-founded SpeaQWith.Me
  - Silver medal at Swiss national HC^2 '10 programming competition at EPFL
  - Silver medal at ACM-SWERC '09 programming competition at Madrid, Spain
- Positions of responsibility held:
  - Volunteer for NeurIPS 2017
  - Co-organized Machine Learning Summer School 2016 in Càdiz, Spain
  - Coordinator of SciMaTEX, the pure science events, and TesseracT, the online puzzle solving competition in Techkriti (technical festival) '08
  - Secretary for Electronics club and English Literary Society events in Antragni (cultural festival) '07
  - A problem setter for International Online Programming Competition, conducted in Techkriti '08
- Teaching activity:
  - Teaching assistant for Human Centered Machine Learning 2018-19 at Saarland University
  - Taught a tutorial on Point Processes in Machine Learning Summer School 2016 in Càdiz, Spain
  - Taught a tutorial on Network Analysis in Machine Learning Summer School 2017 in Tübingen, Germany
  - Teaching assistant for the seminar course on Social and Information Networks at TU-KL, 2016
- Reviewer for: ICLR ('20), ICML ('19,'18), NeurIPS ('19,'18,'17,'16,'15), ICDM ('19), WSDM ('16), KDD ('19,'16), IJCAI ('16), SDM ('16), WWW ('16), AISTATS ('16), AAAI ('21,'16), CIKM ('15)