Curriculum Vitæ

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Research Interests

My recent work has involved the application of machine learning approaches primarily in three domains: systems biology, cognitive science, and computational social science. My doctoral research was on the investigation of large-scale complex (in particular, biological) networks; as an extension of that, my main focus in the systems biology domain is on using graph-theoretic modeling approaches and ideas from complexity science and statistical physics to better understand the relationship between network topology, dynamics, function, and evolution, particularly in the context of intracellular signalling and interaction networks. I am also interested in computational learning theory and the use of machine learning approaches for network data mining and to develop predictive models of biological systems. In the cognitive science domain, I am primarily interested in the use of machine learning models for language production and comprehension, in particular trying to investigate how different cognitively motivated features (*e.g.*, features reflecting working memory constraints and features reflecting priming effects) might be integrated to determine production choices and comprehension efficacy. My recent work has focused on Hindi-Urdu and English, but I am interested in looking at a range of different languages, and also what variation amongst languages can tell us about the underlying cognitive machinery. In the computational social science area, we have had a focus on modelling and predicting childhood vaccination outcomes and better understanding the factors influencing them, such as sociodemographic background and the structure of social networks.

Education

Qualification	Institution	Years	Performance
D.Phil. (Physics, Systems Biology)	University of Oxford	2007–2012	—
B.Tech. (Computer Science and Engg.)	Indian Institute of Technology Kanpur	2002–2006	GPA 9.3/10
Indian School Certificate (Maths, Science)	La Martiniere College, Lucknow	2000–2002	95.0% aggregate
Indian Certificate of Secondary Education	La Martiniere College, Lucknow	1998–2000	92.6% aggregate

Research Experience

- **1st August 2024 – present: Associate Professor of Artificial Intelligence at the Indian Institute of Technology Delhi**
  I have continued working largely on AI and machine learning approaches for scientific modelling in complex systems, along with a newer set of interests in the philosophy of AI: specifically, epistemological questions around the nature and limitations of knowledge representation in AI systems, and formal notions of agency and self for AI.

- **30 December 2020 – 31st July 2024: Associate Professor of Electrical Engineering at the Indian Institute of Technology Delhi**
  5 November 2012 – 29 December 2020: Assistant Professor of Electrical Engineering at the Indian Institute of Technology Delhi
  I was part of the Computer Technology group within the Department of Electrical Engineering. I was the PI until 2018 on a research grant funded by the Department of Science and Technology (under the INSPIRE Faculty Award scheme) entitled *Uncovering subcellular regulatory networks*. This sits at the interface of Machine Learning and Systems Biology, and seeks to use large experimental data sets of gene and protein activity to reverse engineer the control and regulation mechanisms that underlie cellular physiology. I supervised one Ph.D. student funded by this grant who has recently submitted her thesis, and have also supervised a number of Master's and undergraduate theses as part of this. This work has so far led to one journal publication in *Progress in Biophysics and Molecular Biology* in December 2013, and two presentations at major international conferences in 2015, the *International Conference on Inductive Logic Programming (ILP)* and the *International Conference on Systems Biology (ICSB)*. We also had a paper presented at the *ACM IKDD Conference on Data Science (CoDS)* held in March 2016, and another abstract was accepted for presentation at the *ICSB* in 2018.
  I have also initiated, along with colleagues from linguistics, psychology, computer science, and electrical engineering, a cross-departmental research group in the area of cognitive science at IIT Delhi. This group currently has around 10 faculty members and 15–20 students actively involved. As part of this I also mentored a post-doctoral fellow funded by a 2-year grant from the Department of Science and Technology's Cognitive Science Research Initiatve entitled *Processing of complex event structures in Hindi: an investigation into relative compositionality*. We have particularly sought to focus on the relatively understudied South Asian languages, with ongoing projects looking at Hindi-Urdu and Sanskrit, in addition to English. A paper on identifying light verb constructions in Hindi was presented at the *International Conference on Computational Linguistics (COLING)* in December 2016. A journal paper developing an incremental dependency parser for Hindi, and using it to model eye-tracking data, appeared in the *Journal of Eye Movement Research* in April 2017. Another paper on developing a corpus of Sanskrit sandhi and using it to evaluate computational sandhi analysis tools appeared in the proceedings of the *Language Resources and Evaluation Conference (LREC)* in May 2018.
  A third research strand has been in the area of public health informatics: specifically, mathematical modelling and forecasting of public sentiments towards vaccination programmes. This has been in collaboration with the Vaccine Confidence Project (`http://www.vaccineconfidence.org/`) at the London School of Hygiene and Tropical Medicine, as well as the Systems and Signals group (`http://wwwf.imperial.ac.uk/~nsjones/`) at Imperial College London. Three Master's theses have been supervised as part of this, and a paper on global forecasting of vaccination coverage trends was published in *The Lancet Global Health* in 2016. We are currently looking to extend this methodology to track and forecast vaccination attitudes in India specifically, together with colleagues at JNU and the INCLEN Trust International.
  Finally, I have done some work on recommender systems for smart devices; I was the PI on a one-year industrial consultancy grant funded by Samsung India, entitled *A personalisation and recommendation system using ambient intelligence*. One Master's thesis and one undergraduate project have also been supervised as part of this. This work led to two publications in IEEE proceedings during 2014.

- **October 2007 – July 2012: D.Phil. Scholar at the University of Oxford**
  My doctoral research was focused on the study of biological networks, in particular subcellular networks of interactions between proteins. I used techniques from statistical physics and machine learning to investigate these and other kinds of networked systems, and developed a methodology for large-scale comparative study of complex networks from a wide range of scientific disciplines (in addition to biological networks of multiple kinds, these also included social and other sorts of networks).
  In my first year I worked on a project involving the study of the roles played by individual proteins in protein-protein interaction networks; this work was published in *PLoS Computational Biology* in June 2010. Subsequently I worked on a more wide-ranging project on comparative statistical network analysis. Extended abstracts on this work were accepted for publication in the proceedings of workshops associated with two

major conferences in 2010, the *European Conference on Machine Learning (ECML)* and the *International Conference on Systems Biology (ICSB)*. A full-length paper on this work is currently in preparation.
I was also involved in a supplementary piece of work looking at protein structure, in particular the distribution of loop lengths in proteins and the use of ideas from statistical physics to model this. The outcomes of our work were published in *PeerJ* in February 2013.

- **July 2009 – August 2009: Project Assistant at the School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi**
  I worked briefly on exploring a project involving the inference of gene regulatory networks from gene expression data, using machine learning techniques, in particular inductive logic programming and variants thereof. I have returned to this theme as part of my current research in the systems biology domain.

- **July 2006 – July 2007: Project Trainee at the IBM India Research Laboratory, New Delhi**
  I worked on a project involving the automated analysis and categorisation of customer feedback on call centre services. This made use of machine learning techninques, specifically, the areas of text mining and natural language processing. Some work resulting from this stint was published at the *IEEE International Conference on Data Mining* in 2007. Alongside this project, I also did some work on building computational models for recognising biological sequences, in particular microRNA sequences. This work also involved the use of machine learning methods.

- **July 2005 – April 2006: B.Tech. Project at the Indian Institute of Technology Kanpur**
  My final-year undergraduate thesis was in the area of statistical learning theory and involved developing an efficient method for learning from streaming data. This was one of 6 projects (in a class of 40) nominated for the best B.Tech. project award in the Computer Science and Engineering department in 2006, and the work was published in *Neurocomputing* in 2008.

- **May 2005 – July 2005: Summer Intern at the IBM India Research Laboratory, New Delhi**
  My first research project, which involved developing a statistical model (a variant of a Hidden Markov Model) to predict microRNA folding; we subsequently continued to develop the resulting model, along with obtaining experimental verification via our collaborators at the Jawaharlal Nehru University, and it was published in *BMC Bioinformatics* in January 2010.

Current and recent funded research projects

- *Interventions to increase immunisation coverage among children 12–23 months of age in India through participatory learning and community mobilisation* (as PI, in collaboration with the Université de Montréal). Sponsored by Centre hospitalier de l'Université de Montréal.

- *Developing district-level forecasts of vaccine coverage and inferring vaccine confidence across India using large public health datasets* (as PI, in collaboration with JNU, INCLEN Trust International, and Imperial College London). DBT – Gates Foundation Grand Challenges India.

- *Computational and Cognitive Models of Language Production and Comprehension: A Crosslinguistic Investigation of Hindi and English Word Order* (as co-PI, in collaboration with IISER Bhopal). DST Cognitive Science Research Initiative.

- *Algorithms and Architectures for Machine Learning and Computing on the Edge* (as co-PI). Sponsored by Cadence Design Systems, Inc.

- *GenomeIndia: Cataloguing the Genetic Variation in Indians* (as co-PI, in collaboration with 19 other institutions across India). DBT Pan-India R&D Network.

- *Development of a web-based platform to crowdsource public judgments and decisions about technology* (as co-PI). Grand Challenge Scheme of Industrial Research and Development Unit, IIT Delhi.

- *Extreme Classification* (as co-PI). Microsoft Research India Unrestricted Research Grant.
- *Microsoft Research India Virtual Centre in Machine Learning at IIT Delhi* (as co-PI).

Teaching Experience

I have been teaching at IIT Delhi since January 2013, and have so far taught courses on Machine Learning (nine times), Cognitive Science (eight times), Data Structures and Algorithms (seven times), Systems Biology (thrice), Compilers and Systems Software (twice), Introductory Electrical Engineering (twice), Deep Learning, Computer Vision, Computational Learning Theory, Bayesian Statistical Modelling, and Philosophy of Science. These courses have been taken by a mix of undergraduate, Master's, and doctoral students.

Publications

Journal

- Neha Vats, Anirban Sengupta, Rakesh K Gupta, Rana Patir, Sandeep Vaishya, Sunita Ahlawat, Jitender Saini, Sumeet Agarwal, and Anup Singh. Differentiation of Pilocytic Astrocytoma from Glioblastoma using a Machine-Learning framework based upon quantitative T1 perfusion MRI. *Magnetic Resonance Imaging* **98**:76–82 (2023).
- Ornella Cominetti, Sumeet Agarwal, and Sergio Oller-Moreno. Editorial: Advances in methods and tools for multi-omics data analysis. *Frontiers in Molecular Biosciences* **10**:1186822 (2023).
- Nandita Saikia, Krishna Kumar, Jayanta Kumar Bora, Souvik Mondal, Santosh Phad, and Sumeet Agarwal. What Determines the District-Level Disparities in Immunization Coverage in India: Findings from Five Rounds of the National Family Health Survey. *Vaccines* **11**(4):851 (2023).
- Sidharth Ranjan, Rajakrishnan Rajkumar, and Sumeet Agarwal. Locality and expectation effects in Hindi preverbal constituent ordering. *Cognition* **223**:104959 (2022).
- Mira Johri, Sumeet Agarwal, Aman Khullar, Dinesh Chandra, Vijay Sai Pratap, Aaditeshwar Seth, and the Gram Vaani Team. The first 100 days: how has COVID-19 affected poor and vulnerable groups in India? *Health Promotion International*, daab050 (2021).
- Deepika Vatsa and Sumeet Agarwal. PEPN-GRN: A Petri net-based approach for the inference of gene regulatory networks from noisy gene expression data. *PLoS ONE* **16**(5):e0251666 (2021).
- Akash Nayak, Esha Baidya Kayal, Manish Arya, Jayanth Culli, Sonal Krishan, Sumeet Agarwal, and Amit Mehndiratta. Computer-aided diagnosis of cirrhosis and hepatocellular carcinoma using multi-phase abdomen CT. *International Journal of Computer Assisted Radiology and Surgery* (2019).
- Anirban Sengupta, Anandh K. Ramaniharan, Rakesh K. Gupta, Sumeet Agarwal, and Anup Singh. Glioma grading using a machine learning framework based on optimized features obtained from T1 perfusion MRI and volumes of tumor components. *Journal of Magnetic Resonance Imaging* (2019).
- Anirban Sengupta, Sumeet Agarwal, Pradeep K. Gupta, Sunita Ahlawat, Rana Patir, Rakesh K. Gupta, and Anup Singh. On Differentiation between Vasogenic Edema and Non-Enhancing Tumor in High-Grade Glioma Patients using Support Vector Machine Classifier based upon Pre and Post Surgery MRI Images. *European Journal of Radiology* **106**:199–208 (2018).
- Arpit Agrawal, Sumeet Agarwal, and Samar Husain. Role of expectation and working memory constraints in Hindi comprehension: An eyetracking corpus analysis. *Journal of Eye Movement Research* **10**(2):4 (2017).

- Alexandre de Figueiredo, Iain G. Johnston, David M. D. Smith, Sumeet Agarwal, Heidi J. Larson, and Nick S. Jones. Forecasted trends in vaccination coverage and correlations with socioeconomic factors: a global time-series analysis over 30 years. *The Lancet Global Health* **4**(10):e726–e735 (2016).
- Sumeet Agarwal. Systems approaches in understanding evolution and evolvability. *Progress in Biophysics and Molecular Biology* **113**:369–374 (2013).
- Yoonjoo Choi, Sumeet Agarwal, and Charlotte Deane. How long is a piece of loop? *PeerJ* **1**:e1 (2013).
- Sumeet Agarwal, Charlotte M. Deane, Mason A. Porter, and Nick S. Jones. Revisiting Date and Party Hubs: Novel Approaches to Role Assignment in Protein Interaction Networks. *PLoS Computational Biology* **6**(6):e1000817 (2010).
- Sumeet Agarwal, Candida Vaz, Alok Bhattacharya, and Ashwin Srinivasan. Prediction of novel precursor miRNAs using a context-sensitive hidden Markov model (CSHMM). *BMC Bioinformatics* **11**(Suppl 1):S29 (2010).
- Sumeet Agarwal, V. Vijaya Saradhi, and Harish Karnick. Kernel-based online machine learning and support vector reduction. *Neurocomputing* **71**:1230–1237 (2008).

Conference Proceedings

- Oshin Dutta, Tanu Kanvar, and Sumeet Agarwal. Search-time Efficient Device Constraints-Aware Neural Architecture Search. In *Proceedings of the 10th International Conference on Pattern Recognition and Machine Intelligence (PReMI)*, Kolkata, India, December 2023.
- Kunal Dahiya, Sachin Yadav, Sushant Sondhi, Deepak Saini, Sonu Mehta, Jian Jiao, Sumeet Agarwal, Purushottam Kar, and Manik Varma. Deep Encoders with Auxiliary Parameters for Extreme Classification. In *Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, Long Beach, California, USA, August 2023.
- Nishad Singhi, Sumeet Agarwal, and Sumitava Mukherjee. Using Computational Models to Understand the Role and Nature of Valuation Bias in Mixed Gambles. In *Proceedings of the 45th Annual Meeting of the Cognitive Science Society (CogSci)*, Sydney, Australia, July 2023.
- Kunal Dahiya, Nilesh Gupta, Deepak Saini, Akshay Soni, Yajun Wang, Kushal Dave, Jian Jiao, Prasenjit Dey, Amit Singh, Deepesh Hada, Vidit Jain, Bhawna Paliwal, Anshul Mittal, Sonu Mehta, Ramachandran Ramjee, Sumeet Agarwal, Purushottam Kar, and Manik Varma. NGAME: Negative Mining-aware Mini-batching for Extreme Classification. In *Proceedings of the 16th ACM International Conference on Web Search and Data Mining (WSDM)*, Singapore, February–March 2023.
- Sidharth Ranjan, Marten van Schijndel, Sumeet Agarwal, and Rajakrishnan Rajkumar. Discourse Context Predictability Effects in Hindi Word Order. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Abu Dhabi, UAE, December 2022.
- Sidharth Ranjan, Marten van Schijndel, Sumeet Agarwal and Rajakrishnan Rajkumar. Dual Mechanism Priming Effects in Hindi Word Order. In *Proceedings of the 2nd Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics and the 12th International Joint Conference on Natural Language Processing (AACL-IJCNLP)*, November 2022.
- Anshul Mittal, Kunal Dahiya, Shreya Malani, Janani Ramaswamy, Seba Kuruvilla, Jitendra Ajmera, Kenghao Chang, Sumeet Agarwal, Purushottam Kar, and Manik Varma. Multi-Modal Extreme Classification. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, New Orleans, Louisiana, USA, June 2022.

- Sidharth Ranjan, Rajakrishnan Rajkumar, and Sumeet Agarwal. Linguistic Complexity and Planning Effects on Word Duration in Hindi Read Aloud Speech. In *Proceedings of the Society for Computation in Linguistics (SCiL)*, February 2022.
- Kunal Dahiya, Ananye Agarwal, Deepak Saini, Gururaj K, Jian Jiao, Amit Singh, Sumeet Agarwal, Purushottam Kar, and Manik Varma. SiameseXML: Siamese Networks meet Extreme Classifiers with 100M Labels. In *Proceedings of the 38th International Conference on Machine Learning (ICML)*, July 2021.
- Anshul Mittal, Noveen Sachdeva, Sheshansh Agrawal, Sumeet Agarwal, Purushottam Kar, and Manik Varma. ECLARE: Extreme Classification with Label Graph Correlations. In *Proceedings of the 30th Web Conference (WWW)*, April 2021.
- Anshul Mittal, Kunal Dahiya, Sheshansh Agrawal, Deepak Saini, Sumeet Agarwal, Purushottam Kar, and Manik Varma. DECAF: Deep Extreme Classification with Label Features. In *Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM)*, Jerusalem, Israel, March 2021.
- Kunal Dahiya, Deepak Saini, Anshul Mittal, Ankush Shaw, Kushal Dave, Akshay Soni, Himanshu Jain, Sumeet Agarwal, and Manik Varma. DeepXML: A Deep Extreme Multi-Label Learning Framework Applied to Short Text Documents. In *Proceedings of the 14th ACM International Conference on Web Search and Data Mining (WSDM)*, Jerusalem, Israel, March 2021.
- Samvit Dammalapati, Rajakrishnan Rajkumar, and Sumeet Agarwal. Effects of Duration, Locality, and Surprisal in Speech Disfluency Prediction in English Spontaneous Speech. In *Proceedings of the Society for Computation in Linguistics (SCiL)*, February 2021.
- Ayush Srivastava, Oshin Dutta, Jigyasa Gupta, Sumeet Agarwal, and Prathosh AP. A Variational Information Bottleneck Based Method to Compress Sequential Networks for Human Action Recognition. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, January 2021 [arXiv:2010.01343].
- Farah Jamal Ansari and Sumeet Agarwal. Fast Road Sign Detection and Recognition Using Colour-Based Thresholding. In *Proceedings of the 5th IAPR International Conference on Computer Vision and Image Processing (CVIP)*, Allahabad, India, December 2020.
- Aditi Jha and Sumeet Agarwal. Do Deep Neural Networks Model Nonlinear Compositionality in the Neural Representation of Human-Object Interactions? In *Proceedings of the 3rd Conference on Cognitive Computational Neuroscience (CCN)*, Berlin, Germany, September 2019.
- Shubham Bhardwaj, Neelamadhav Gantayat, Nikhil Chaturvedi, Rahul Garg, and Sumeet Agarwal. SandhiKosh: A Benchmark Corpus for Evaluating Sanskrit Sandhi Tools. In *Proceedings of the 11th Language Resources and Evaluation Conference (LREC)*, Miyazaki, Japan, May 2018.
- Abhimanyu Dubey and Sumeet Agarwal. Modeling Image Virality with Pairwise Spatial Transformer Networks. In *Proceedings of the 25th ACM Multimedia Conference (MM)*, Mountain View, California, USA, October 2017.
- Ashwini Vaidya, Sumeet Agarwal, and Martha Palmer. Linguistic features for Hindi light verb construction identification. In *Proceedings of the 26th International Conference on Computational Linguistics (COLING)*, Osaka, Japan, December 2016.
- Deepika Vatsa, Sumeet Agarwal, and Ashwin Srinivasan. Learning transition models of biological regulatory and signaling networks from noisy data. In *Proceedings of the 3rd ACM IKDD Conference on Data Science (CODS)*, Pune, India, March 2016.
- Ashwin Srinivasan, Michael Bain, Deepika Vatsa, and Sumeet Agarwal. Identification of Transition Models of Biological Systems in the Presence of Transition Noise. In *Proceedings of the 25th International Conference on Inductive Logic Programming (ILP)*, Kyoto, Japan, August 2015.

- Tanya Raghuvanshi, Shraddha Chaudhary, Varnica Jain, Sumeet Agarwal, and Santanu Chaudhury. Automated Monocular Vision based System for picking Textureless Objects. In *Proceedings of the 2nd International Conference on Advances in Robotics (AIR)*, Goa, India, July 2015.

- Anil Kumar, Nitesh Kumar, Muzammil Hussain, Santanu Chaudhury, and Sumeet Agarwal. Semantic clustering-based cross-domain recommendation. In *Proceedings of the 5th IEEE Symposium on Computational Intelligence and Data Mining (CIDM)*, Orlando, Florida, USA, December 2014.

- Anil Kumar, Vikas Kapur, Apangshu Saha, Rajeev Kumar Gupta, Arun Singh, Santanu Chaudhury, and Sumeet Agarwal. Distributed Implementation of Latent Rating Pattern Sharing Based Cross-domain Recommender System Approach. In *Proceedings of the 3rd IEEE International Congress on Big Data (BigData)*, Anchorage, Alaska, USA, June 2014.

- Sumeet Agarwal, Shantanu Godbole, Diwakar Punjani, and Shourya Roy. How Much Noise in Text is too Much: A Study in Automatic Document Classification. In *Proceedings of the 7th IEEE International Conference on Data Mining (ICDM)*, Omaha, Nebraska, USA, October 2007.

- Sumeet Agarwal, V. Vijaya Saradhi, and Harish Karnick. Kernel-based online machine learning and support vector reduction. In *Proceedings of the 15th European Symposium on Artificial Neural Networks (ESANN)*, Bruges, Belgium, April 2007.

Book Chapters

- Aditi Jha and Sumeet Agarwal. Computer Vision Technology: Do Deep Neural Networks Model Nonlinear Compositionality in the Neural Representation of Human-Object Interactions? In *Applied Cognitive Science and Technology: Implications of Interactions Between Human Cognition and Technology*, pp. 123–138. Springer, Singapore (2023).

- Shantanu Kumar, Ashwini Vaidya, and Sumeet Agarwal. Cognate Identification to Augment Lexical Resources for NLP. In *Applied Cognitive Science and Technology: Implications of Interactions Between Human Cognition and Technology*, pp. 157–174. Springer, Singapore (2023).

Workshop and Non-Archival Proceedings

- Satyajit Maurya, Virendra Kumar Yadav, Sumeet Agarwal, and Anup Singh. Brain Tumor Segmentation in mpMRI Scans (BraTS-2021) Using Models Based on U-Net Architecture. In *Proceedings of the 7th Brain Lesion workshop (BrainLes), MICCAI*, Strasbourg, France, September 2021.

- Hetvi Jethwani and Sumeet Agarwal. Examining forms of inductive bias towards 'simplicity' in genetic algorithms to enhance evolvability of Boolean functions. In *Proceedings of the Genetic and Evolutionary Computation COnference (GECCO) Companion*, Lille, France, July 2021.

- Hritik Bansal, Gantavya Bhatt, and Sumeet Agarwal. Can RNNs trained on harder subject-verb agreement instances still perform well on easier ones? In *Proceedings of the Society for Computation in Linguistics (SCiL)*, February 2021.

- Gantavya Bhatt, Hritik Bansal, Rishubh Singh, and Sumeet Agarwal. How much complexity does an RNN architecture need to learn syntax-sensitive dependencies? In *Proceedings of the ACL Student Research Workshop (SRW)*, Seattle, Washington, USA, July 2020.

- Sidharth Ranjan, Sumeet Agarwal, and Rajakrishnan Rajkumar. Surprisal and Interference Effects of Case Markers in Hindi Word Order. In *Proceedings of the Cognitive Modeling and Computational Linguistics workshop (CMCL), NAACL*, Minneapolis, Minnesota, USA, June 2019.

- Samvit Dammalapati, Rajakrishnan Rajkumar, and Sumeet Agarwal. Expectation and Locality Effects in the Prediction of Disfluent Fillers and Repairs in English Speech. In *Proceedings of the NAACL Student Research Workshop (SRW)*, Minneapolis, Minnesota, USA, June 2019.
- Ayush Jain, Vishal Singh, Sidharth Ranjan, Rajakrishnan Rajkumar, and Sumeet Agarwal. Uniform Information Density Effects on Syntactic Choice in Hindi. In *Proceedings of the Workshop on Linguistic Complexity and Natural Language Processing (LC&NLP), COLING*, Santa Fe, New Mexico, USA, August 2018.
- Dipankar Ganguly, Sumeet Agarwal, and Santanu Chaudhury. Improving Classical OCRs for Brahmic Scripts Using Script Grammar Learning. In *Proceedings of the 6th International Workshop on Multilingual OCR (MOCR), ICDAR*, Kyoto, Japan, November 2017.
- Abhimanyu Dubey, Jayadeva, and Sumeet Agarwal. Examining Representational Similarity in ConvNets and the Primate Visual Cortex. In *Proceedings of the Workshop on Biological and Artificial vision (BioArt), ECCV*, Amsterdam, The Netherlands, October 2016.
- Soumya Sen Gupta and Sumeet Agarwal. Classification and analysis of EEG signals for imagined motor movements. In *Proceedings of the IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions (WCI)*, Kanpur, India, December 2015.
- Sumeet Agarwal, Gabriel Villar, and Nick S. Jones. High Throughput Network Analysis. In *Machine Learning in Systems Biology (MLSB), Proceedings of the Fourth International Workshop*, Edinburgh, Scotland, October 2010.
- Gabriel Villar, Sumeet Agarwal, and Nick S. Jones. High Throughput Network Analysis. In *Proceedings of the Workshop on Analysis of Complex NEtworks (ACNE), ECML PKDD*, Barcelona, Spain, September 2010.

Thesis

- Sumeet Agarwal. *Networks in Nature: Dynamics, Evolution, and Modularity.* D.Phil. Thesis, University of Oxford (2012).

Mass Media

- Sumeet Agarwal. AI helps us answer the fundamental question: What does it mean to think? In *The Indian Express*, New Delhi, India, 14th October 2023.

Awards

- INSPIRE Faculty Award, Department of Science and Technology, Govt. of India, 2012–2018
- Clarendon Scholarship, University of Oxford, 2007–2011
- Best Poster Award, Annual Doctoral Training Centre Conference, University of Oxford, 2009
- Project Achievement Award, IBM India Research Lab, 2007

Personal Information

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- Date of Birth: 29 April 1984

- Nationality: USA, India (OCI)
- Languages: Hindi (native); English (spoken, read, and written); Urdu (spoken and read)

References

- Prof. Nick Jones, Department of Mathematics, Imperial College London (nick.jones@imperial.ac.uk)
- Prof. Mason Porter, Department of Mathematics, University of California, Los Angeles (mason@math.ucla.edu)
- Prof. Ashwin Srinivasan, Department of Computer Science and Information Systems, BITS Pilani Goa Campus (ashwin@goa.bits-pilani.ac.in)
- Prof. Charlotte Deane, Department of Statistics, University of Oxford (deane@stats.ox.ac.uk)
- Prof. Harish Karnick, Department of Cognitive Science, Indian Institute of Technology Kanpur (hk@iitk.ac.in)