Curriculum Vitae: Adarsh Prabhakaran

Education

November 2019 - Present
Doctoral Student (Thesis submitted)
The University Of Edinburgh
Artificial Intelligence and its Applications Institute, School of Informatics
Thesis : Applications of Agent-based Models in Tobacco Control
Designed and implemented Agent based models incorporating complex, socio-economic and behavioural factors to simulate the impact of spatial and network based tobacco policies.
Thesis Guide : Dr. Valerio Restocchi & Dr. Ben Goddard

May 2019
Integrated BS-MS with Majors in Physics
Indian Institute of Science Education and Research (IISER) Mohali
BS level courses in Physics, Chemistry, Maths & Biology

Experience

Nov 2023 - Present
Research Fellow, Department of Political Sciences
University College London
Designing and developing agent-based models for the Human Rights Nudge Project.
Collaborating across law, social sciences, behavioural sciences and informatics.
Focusing on understanding mechanisms within the international court of human rights, encompassing compliance, decision-making systems, vulnerabilities, and potential remedies.
Project Guide : Prof. Veronika Fikfak

Jun 2023 - Oct 2023
Research Mentor
Lumiere Education
Mentored high school students globally on research projects.
Project themes included gender bias in data, facial recognition, medical AI, and recommender systems.

February 2020 - Present
Data Science Associate (Part time)
Dtime.ai
Led and developed multiple projects using NLP, spacial analysis and time-series prediction which lead to their flagship product for data discovery.

September 2020 - December 2020
Teaching Assistant, Data-driven Business and Behaviour Analytics
The University Of Edinburgh
Course modules on Network Sciences and Agent Based Models applied to finance.

May 2019 - July 2019
Long term participant, Dynamics of complex systems 2019
International Centre for Theoretical Sciences, Bangalore, India
Program theme : Social Sciences & Economics
Summer school modules on Genetic Algorithm (GA) and Game Theory,
Agent Based Models, Network Analysis and Time Series Analysis.
Project on analysing resource distribution and allocation via an ecological ABM.

August 2018 - May 2019
Master Thesis,
Indian Institute of Science Education and Research Mohali
Project on Studying collective behaviour using Agent-based models.
* Developed agent based and mean field models for prey-predator systems.
* Investigated the influence of initial spatial orientation of agents on coexistence.
* Verified the effect of boundaries and refuges on prey populations.
* Developed and evaluated Agent-Based Models for the propagation of infection.
Thesis Guide : Prof. Somdatta Sinha

August 2018 - December 2018
Teaching Assistant, *IDC101-Introduction to computers*.
Indian Institute of Science Education and Research Mohali

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May 2018 - July 2018	Visiting Fellow, *Institute for New Economic Thinking* **Oxford Martin School, University of Oxford** Project on applications of NLP to analyse patent similarity. * Verified findings obtained from applying vector space models. * Trained and tested the Doc2Vec word-embedding model with patent data. * Evaluated patent similarity measures for optimal model selection. Project guide: Prof. Doyne Farmer
May 2017 - July 2017	Summer Research Student, *Machine Learning Lab* **University of Trieste** Project on large-scale collection of human posed string processing problems addressed with regular expression. * Developed a web crawler to automatically extract unstructured information. * Worked with regular expressions, databases and learned about information extraction, sentiment analysis and web parsing. Project guide: Dr. Eric Medvet
May 2016- July 2016	Summer Student, *Spintronics and Thin Film Magnetism Lab* **Indian Institute of Science**, Bangalore Projects on the study of Magnetic Ultra-thin films using Magneto-Optic Kerr Effect and building a high gain ultra low noise trans-impedance amplifier.

Skills, Workshops and Conferences

Languages	English, Hindi, Malayalam
Programming	C/C++, Python, Matlab, Root, Netlogo.
Workshops	Trust Driven Leadership course (Humanise Project, Scotland 2022) Certified Mental Health First Aider (Scotland, 2021)

Grants and Scholarships

- Population Health Agent-based Simulation nEtwork (PHASE) Award for 'pump-prime' funding (2022)
  Collaborators: Dr. Valerio Restocchi, Prof. Jamie Pearce, and Dr. Garth Reid
  Description: Awarded grant to support research on agent-based simulation for tobacco interventions in Scotland.
- 120,000£ Fulltime PhD scholarship from the School of Informatics, The University of Edinburgh (2019 - 2023)
- INSPIRE scholarship by the Department of Science and Technology (DST), Govt. of India.

Publications

1. Prabhakaran, A., Restocchi, V., & Goddard, B. D. (2023). Improving tobacco social contagion models using agent-based simulations on networks. Applied Network Science, 8(1), 54.
2. Prabhakaran, A., & Sinha, S. (2022, November). Infection Spread in Populations: An Agent-Based Model. In International Symposium on Mathematical and Computational Biology (pp. 17-27). Cham: Springer Nature Switzerland.
3. Prabhakaran, A., Restocchi, V., & Goddard, B. D. (2022, July). Networks for Smoking Dynamics. In The 11th International Conference on Complex Networks and their Applications 2022.
4. Prabhakaran A, Restocchi V, Goddard BD. Network-interventions for tobacco-control. (In preparation)
5. Prabhakaran A, Restocchi V, Pearce J, Reid G. Modelling the Future of Tobacco Control: Exploring What-If Scenarios for Policy Interventions in Scotland. (In preparation)

Talks

1. Invited Talk: "Agent-Based Modelling for Effective Tobacco Policy Interventions" at the Workshop on Tobacco Pricing in Scotland: New Directions for Research and Policy. Joined by esteemed speakers from the University of Edinburgh, Scottish Government, and Public Health Scotland. June 2023
2. Conference Talk: "Networks for Smoking Dynamics" presented at the International Conference on Complex Networks and their Applications 2022 in Palermo, Italy.
3. Discussion meeting: "Studies on Resource Availability in a Simple Ecological Model" presented at the Dynamics of Complex Systems conference in July 2019, held at the International Centre for Theoretical Sciences.

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