

Email: [s.mishra@ic.ac.uk](mailto:s.mishra@ic.ac.uk)Web: <https://s-mishra.github.io>**Research Profile**

My current research focuses on developing flexible and scalable models for understanding various spatiotemporal data, for example, epidemics (COVID-19, Malaria, HIV), crime and social media. My work focuses on algorithms to model point processes with classical machine learning techniques as well as using modern deep learning networks, mainly recurrent networks. I have led and produced high impact work (published in journals such as Nature, Science, and the Lancet) that has garnered 4.5k+ citations. My career H-Index is 20 and I10 index is 22.

**Education, Academic and Teaching****Education**

- 2015 – 2019 PhD **Australian National University** – Computational Social Science, Research School of Computer Science  
*Thesis title: Linking Models for Collective Attention in Social Media.*
- 2012 – 2014 MSc **Australian National University** – Machine Learning, Research School of Computer Science  
*Thesis title: Implementation and Experiments with Novel Parallel and Bursty Non-parametric Topic Models*
- 2005 – 2009 BEng **University of Pune** - Computer Engineering, Department of Computer Engineering  
*Thesis title: The manufacture of bioethanol from corn starch.*

**Academic Positions**

- 2019 - present **Imperial College London** – Postdoctoral researcher in Geostatistics
- 2015 - 2019 **Australian National University** – Research Assistant: Computational Media Lab
- 2014 - 2015 **Data61 (CSIRO)** – Research Assistant: *Optimisation research Group*
- 2012 - 2014 **Australian National University/Data61(NICTA)** – Research Assistant: *Machine learning research Group*

**Teaching and Supervision Experience**

- 2020 - Present **MSc secondary supervisor** (Yiyong Luo)
- 2020 - Present **MSc secondary supervisor** (Tom Keane)
- 2019 - Present **PhD secondary supervisor** (Helen Coupland)
- 2019 **Undergraduate Summer Project secondary supervisor** (Avish Vijayraghavan)
- 2018 - 2019 **Australian National University** – Co-lecturer, Introduction to Data Management, Analysis and Security
- 2017 - 2018 **Australian National University** – Co-lecturer, Introduction to Programming for Data Scientists
- 2013 - 2018 **Australian National University** – Head Teaching Assistant, Document Analysis
- 2013 - 2014 **Australian National University** – Head Teaching Assistant, Introduction to Programming for Scientists
- 2008 - 2011 **University of Pune**- Head Teaching Assistant, Robotics

**Grants**

- 2020 **Imperial COVID-19 Response Fund (£46,975)** (Co-I)
- 2020 **Microsoft AI for Health program (\$130,000)** (Co-I)
- 2018 **Amazon AWS Compute Grant (\$45,000)** (Co-I)

**Consulting**

- 2020 **New York State:** Advisory group for COVID-19 response
- 2020 **Herbert Smith Freehills:** Advisory group for COVID-19 response

**Selected Invited/Keynote speaker Presentations**

- 2020 Keynote lecture: Scalable Mechanistic Bayesian Models for COVID-19 Transmissions, Stan-Con 2020
- 2020 Invited lecture: Estimating the number of infections and the impact of non-pharmaceutical interventions on COVID-19, European Consortium of Mathematics in Industry
- 2020 Invited lecture: Estimating the number of infections and  $R(t)$  for COVID-19 with a Semi-mechanistic Hierarchical Bayesian Model, DeepMind
2019. Invited lecture: VAE to learn functions, RSS 2019, Belfast
- 2019 Invited lecture: Linking Models of Popularity in Social Media, Monash University

**Scholarships, prizes and awards**

- 2018 ICWSM Student Travel Award
- 2018 ANU Vice Chancellor Travel Grant
- 2018 ANU Domestic PhD scholarship

2016	CIKM Vice Chancellor Travel Grant
2015	Australia International Student PhD scholarship
2014	KDD Travel Grant
2012	ABU Robocon Misumi Sponsors Award (Team India)
2012	ABU Robocon Mabuchi Motor Award (Team India)

### Publication Summary

Total number of peer-reviewed publications: 24

Conference publications: 5

Citation information: 4,500+ Citations

H-index: 20

I10-Index: 22

3 Papers published in Nature (2 first author),

3 Papers published in Science (1 first author, 1 senior author),

3 Paper in Nature Communications (1 first author)

1 Paper in the Lancet,

1 Upcoming Nature Communications Paper (first author)

1 Upcoming Proceedings of The Royal Society A

### Selected Publications

1. Flaxman, S., **Mishra, S.**, Gandy, A. *et al.* Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe. *Nature* 584, 257–261 (2020). <https://doi.org/10.1038/s41586-020-2405-7> (**Equal contribution first author**)
2. Volz, **Mishra, S.**, E., Chand, M. *et al.* Assessing transmissibility of SARS-CoV-2 lineage B.1.1.7 in England. *Nature* (2021). <https://doi.org/10.1038/s41586-021-03470-x> (**Equal contribution first author**)
3. Faria, N. R., Mellan, T. A., Whittaker, C., Claro, I. M., Candido, **Mishra, S.**, D. d. S.,...Sabino, E. C. (2021). Genomics and epidemiology of the P.1 SARS-CoV-2 lineage in Manaus, Brazil. *Science*, eabh2644. doi: 10.1126/science.abh2644(**Equal contribution first author**)
4. Unwin, H.J.T., **Mishra, S.**, Bradley, V.C. *et al.* State-level tracking of COVID-19 in the United States. *Nat Commun* 11, 6189 (2020). <https://doi.org/10.1038/s41467-020-19652-6> (**Equal contribution first author**)
5. Monod, Mélo die, et al. "Age groups that sustain resurging COVID-19 epidemics in the United States." *Science*, vol. 371, no. 6536, 26 Mar. 2021, p. eabe8372, doi:10.1126/science.abe8372. (**Senior author**)
6. Okell, Lucy C., et al. "Have deaths from COVID-19 in Europe plateaued due to herd immunity?" *Lancet*, vol. 395, no. 10241, 20 June 2020, pp. e110-e111, doi:10.1016/S0140-6736(20)31357-X.

Full publication lists

Google Scholar

<https://scholar.google.co.uk/citations?user=RqbpaXcAAAAJ&hl=en>

## References

- 1. Prof. Samir Bhatt** [s.bhatt@imperial.ac.uk](mailto:s.bhatt@imperial.ac.uk)  
Professor Machine Learning and Public Health, University of Copenhagen.  
Senior Lecturer in Geostatistics,  
Imperial College London.
- 2. Dr. Seth Flaxman** [s.flaxman@imperial.ac.uk](mailto:s.flaxman@imperial.ac.uk)  
Senior Lecturer in Statistical Machine Learning,  
Faculty of Natural Sciences, Department of Mathematics,  
Imperial College London
- 3. Prof. Axel Gandy** [a.gandy@imperial.ac.uk](mailto:a.gandy@imperial.ac.uk)  
Chair in Statistics,  
Faculty of Natural Sciences, Department of Mathematics,  
Imperial College London