

## List of competitive funds, awards & achievements

Soumya Banerjee

### Competitive funds & grant awards

- AI@CAM Pilot Grants, Co-investigator — £150,000 (Feb 2024).
- OpenAI Researcher Access Program — API credits USD 3,000 (Apr 2024).
- MRC New Investigator Grant — application under review (May 2025).
- Multiple small/departmental travel and pilot awards used to support collaborative projects and student travel (internal Cambridge awards & travel grants — details available on request).

### Major honours & awards

- Student Award for Innovation in Informatics, University of New Mexico (2010).
- Distinction & 5th rank, Nagpur University BE (2003).
- Ranked among the Top ~250 worldwide contributors on MATLAB Central (community recognition for code and resources).

### Refereed publications (selected, high-impact)

- Patterns (2022): “Patient and public involvement to build trust in artificial intelligence: a framework, tools and case studies.”
- Nature Partner Journal Schizophrenia (2021): class-contrastive interpretable ML for mortality prediction.
- Gut (2020), Nature Communications (2019), Journal of Cell Biology (2017) — multiple interdisciplinary high-impact papers across computational biology, ML and systems biology.

### Software, tools & technology transfer

- dsSurvival, dsSurvivalClient, dsSynthetic — R packages for privacy-preserving/federated analysis (DataSHIELD ecosystem).
  - <https://github.com/neelsoumya/dsSurvival>
- ShinyDataSHIELD — R Shiny application enabling non-disclosive federated analyses (International Journal of Epidemiology software profile).
- Public repositories and teaching code (GitHub/Bitbucket) used by students, collaborators and external groups — actively maintained and used in multi-site projects.
  - <https://github.com/neelsoumya>

## **Contributions to university / institutional operations**

- Teaching & curriculum development: Developed and taught undergraduate & postgraduate modules in ML, reproducible research, and data visualization; created practicals and course materials used across departments.
- Examination / admissions / recruitment: Member of PhD/MPhil recruitment panels.
- Program and workshop organisation: Program committee member for conferences and workshops (e.g., Int'l Conference on Artificial Immune Systems, ECML-PKDD workshop).
- Mentoring: Supervised 14 MPhil students, 2 summer interns and co-supervised 1 PhD.

## **Contribution to academic societies & community**

- Active in Artificial Immune Systems organising activities.
- Regular reviewer for major journals (IEEE T-SMC, IEEE T-ETCI, AAAI workshops, SIMIODE) and Review Editor, Frontiers in Virology.
- Contributor / reviewer of open teaching resources (SIMIODE) and platforms (OSF), supporting wider community pedagogy.

## **Societal impact, public engagement & policy influence**

- Research and toolkits for patient & public involvement in AI (frameworks and case studies) — work aimed at building trust and practical involvement mechanisms in clinical ML projects.
  - [https://github.com/neelsoumya/ai\\_outreach](https://github.com/neelsoumya/ai_outreach)
- Policy/outreach writing: commentary on pandemic policy issues (e.g., Lancet Rheumatology piece on hydroxychloroquine and LMICs).
  - <https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913%2820%2930162-4/fulltext>
- Workshops and capacity building in Africa and beyond (Data Science Africa workshops; Prime Directives for Responsible AI for Africa — 2025 contributions).

## **Joint research projects & major collaborations**

- Multi-institution collaborations with University of Cambridge, University of Oxford, Harvard Medical School / Broad Institute, Max Planck Institute, CSIRO, Los Alamos National Laboratory and international partners.
- Participated in large multi-site federated analysis projects (DataSHIELD community) and multi-disciplinary consortia linking ML with clinical/translational research.

## **Invited talks & keynote lectures (selected)**

- Nokia Bell Labs, Cambridge — “Responsible AI and involving patients in AI model building” (Feb 2025).
- Keynote, Physics of Self-Organization in Complex Systems, Exeter (Sep 2024).

- UK-India cooperation talk on fair AI (Dec 2024).
- Multiple invited lectures for Cambridge-Africa Programme, Oxford Complex Networks Summer School, and doctoral training centres.

### Teaching innovations & materials reuse

- Publicly available, reusable teaching modules on reproducible research (R), visualization lectures, and ML unsupervised practicals; materials adopted by colleagues and used for outreach/short courses.
- Developed hands-on GUIs and interactive environments to teach computational concepts to non-programmers (biologists, clinicians).

### Editorial / peer-review service & leadership

- Program committee and reviewer roles across conferences and journals; review editor for Frontiers in Virology; frequent external examiner/reviewer for grant and award panels.

### One-line summary

Interdisciplinary computational scientist with competitive grant leadership (AI@CAM £150k), international high-impact publications, community software/tools for privacy-preserving federated analysis (dsSurvival & ShinyDataSHIELD), extensive teaching and curriculum development, and sustained public engagement to increase trust in clinical AI.