Niccolo´ Pescetelli

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I am a senior behavioural and data scientist specialising in collective intelligence and decision-making. I have experience in both industry and academia. I am an Associate Professor at the London Interdisciplinary School where I teach data science and machine learning. I am the Director of and Chief Scientist at PSi, a platform to host and analyse conversations at an unprecedented scale. I raised more than $2 million in VC funding and grants.

Education

University of Oxford — Oxford, UK
D.Phil. Experimental Psychology — 2013–2017
Dissertation: *On the use of metacognitive signals to navigate the social world.*
Supervision: Nick Yeung, Chris Summerfield, Iain Couzin (Ext).

École Normale Supérieure & Sorbonne University (UPMC) — Paris, France
M.Sc. Brain and Mind Sciences (II) — 2012–2013
Grade: 14/20. Supervision: Stanislas Dehaene, Jean-Rémi King.

University College London — London, UK
M.Sc. Brain and Mind Sciences (I) — 2011–2012
Distinction. Highest cohort dissertation mark (80/100). Supervision: Geraint Rees, Bahador Bahrami.

Università degli Studi di Padova — Padua, Italy
B.Sc. Cognitive Psychology — 2008–2011
Grade: Summa Cum Laude. Supervision: Luciano Gamberini, Anna Spagnolli.

Academic Appointments

The London Interdisciplinary School — London, UK
Associate Professor — 2024–present

New Jersey Institute of Technology — Newark, NJ, USA
Assistant Professor — 2021–2024

Max Planck Institute for Human Development — Berlin, Germany
Research Scientist & Principal Investigator — 2019–2021

MIT Media Lab — Boston, MA, USA
Postdoctoral Associate — 2017–2019

Awards and Honors

2025: Google Impact Challenge: Strengthening Democracy in Europe. *(under embargo until Jan 2025)*

2024: CERT Seed Grant (New Jersey Institute of Technology).

2024: Faculty Seed Grant (New Jersey Institute of Technology).

2020: EU Horizon 2020: Media Futures.

2020: Best Scientific Micro-documentary, Miami Int. Sci-Fi Film Festival.
2013–2016: Oxford Clarendon Scholarship.

Skills

Python ▬▬▬▬▬ **R Studio** ▬▬▬▬▬ **Data Visualisation** ▬▬▬▬▬
Machine Learning ▬▬▬▬ **Statistics** ▬▬▬▬▬ **Experimental Design**
▬▬▬▬ **English** ▬▬▬▬ **Italian** ▬▬▬▬ **French**
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Publications

Tsvetkova, Milena et al. (Oct. 2024). "A new sociology of humans and machines". In: *Nature Human Behaviour* 8.10, pp. 1864–1876. ISSN: 2397-3374. DOI: 10.1038/s41562-024-02001-8. URL: http://dx.doi.org/10.1038/s41562-024-02001-8.

Brinkmann, Levin, Manuel Cebrian, and Niccolò Pescetelli (Oct. 2023). "Adversarial Dynamics in Centralized Versus Decentralized Intelligent Systems". In: *Topics in Cognitive Science*. ISSN: 1756-8765. DOI: 10.1111/tops.12705. URL: http://dx.doi.org/10.1111/tops.12705.

Galesic, Mirta et al. (Mar. 2023). "Beyond collective intelligence: Collective adaptation". In: *Journal of The Royal Society Interface* 20.200. ISSN: 1742-5662. DOI: 10.1098/rsif.2022.0736. URL: http://dx.doi.org/10.1098/rsif.2022.0736.

Holford, Dawn et al. (Apr. 2023). "Science Communication as a Collective Intelligence Endeavor: A Manifesto and Examples for Implementation". In: *Science Communication* 45.4, pp. 539–554. ISSN: 1552-8545. DOI: 10.1177/10755470231162634. URL: http://dx.doi.org/10.1177/10755470231162634.

Misevic, Dusan et al. (Mar. 2023). "Harnessing collective intelligence for the future of learning – a co-constructed research and development agenda". In: *Human Computation* 10.1, pp. 1–30. ISSN: 2330-8001. DOI: 10.15346/hc.v10i1.141. URL: http://dx.doi.org/10.15346/hc.v10i1.141.

Müller, Thomas F. et al. (Apr. 2023). "Machine Impostors Can Avoid Human Detection and Interrupt the Formation of Stable Conventions by Imitating Past Interactions: A Minimal Turing Test". In: *Cognitive Science* 47.4. ISSN: 1551-6709. DOI: 10.1111/cogs.13288. URL: http://dx.doi.org/10.1111/cogs.13288.

Pescetelli, Niccolo and Georgina Denis (June 2023). "Methods to scale deliberative decision-making to billions of simultaneous people". In: DOI: 10.31234/osf.io/cxhke. URL: http://dx.doi.org/10.31234/osf.io/cxhke.

Brinkmann, L. et al. (May 2022). "Hybrid social learning in human-algorithm cultural transmission". In: *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* 380.2227. ISSN: 1471-2962. DOI: 10.1098/rsta.2020.0426. URL: http://dx.doi.org/10.1098/rsta.2020.0426.

Müller, Thomas Franz et al. (Apr. 2022). "Machine Impostors Avoid Human Detection by Interrupting the Formation of Stable Conventions: A Minimal Turing Test". In: DOI: 10.31234/osf.io/x2yf7. URL: http://dx.doi.org/10.31234/osf.io/x2yf7.

Pescetelli, Niccolò and Nick Yeung (Oct. 2022). "Benefits of spontaneous confidence alignment between dyad members". In: *Collective Intelligence* 1.2, p. 263391372211269. ISSN: 2633-9137. DOI: 10.1177/26339137221126915. URL: http://dx.doi.org/10.1177/26339137221126915.

Avraam, Demetris et al. (Nov. 2021). "The network limits of infectious disease control via occupation-based targeting". In: *Scientific Reports* 11.1. ISSN: 2045-2322. DOI: 10.1038/s41598-021-02226-x. URL: http://dx.doi.org/10.1038/s41598-021-02226-x.

Bassett, Jason et al. (Aug. 2021). "Time-critical decentralised situational awareness in emergencies: an adversarial biosecurity scenario". In: *Applied Network Science* 6.1. ISSN: 2364-8228. DOI: 10.1007/s41109-021-00402-6. URL: http://dx.doi.org/10.1007/s41109-021-00402-6.

Brinkmann, Levin, Deniz Gezerli, et al. (Apr. 2021). "Hybrid social learning in human-algorithm cultural transmission". In: DOI: 10.31235/osf.io/pfdcv. URL: http://dx.doi.org/10.31235/osf.io/pfdcv.

Pescetelli, Niccolo, Patrik Reichert, and Alex Rutherford (Nov. 2021). "A variational-autoencoder approach to solve the hidden profile task in hybrid human-machine teams". In: DOI: 10.31234/osf.io/67jku. URL: http://dx.doi.org/10.31234/osf.io/67jku.

Pescetelli, Niccolo, Manuel Cebrian, and Iyad Rahwan (Aug. 2020). "BeeMe: Real-Time Internet Control of Situated Human Agents". In: *Computer* 53.8, pp. 49–58. ISSN: 1558-0814. DOI: 10.1109/mc.2020.2996824. URL: http://dx.doi.org/10.1109/MC.2020.2996824.

Pescetelli, Niccolo and Nick Yeung (Sept. 2019). "The role of decision confidence in advice-taking and trust formation". In: DOI: 10.31234/osf.io/sjgf7. URL: http://dx.doi.org/10.31234/osf.io/sjgf7.

Rosenberg, L., N. Pescetelli, and G. Willcox (2018). "Artificial swarm intelligence amplifies accuracy when predicting financial markets". In: *2017 IEEE 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference, UEMCON 2017*. Vol. 2018-Janua. ISBN: 9781538611043. DOI: 10.1109/UEMCON.2017.8248984.

Rosenberg, Louis B. and Niccolo Pescetelli (2017). "Amplifying prediction accuracy using Swarm A.I." In: *2017 Intelligent Systems Conference (IntelliSys)*, pp. 61–65.

King, Jean-Rémi, Niccolo Pescetelli, and Stanislas Dehaene (Dec. 2016). "Brain Mechanisms Underlying the Brief Maintenance of Seen and Unseen Sensory Information". In: *Neuron* 92.5, pp. 1122–1134. ISSN: 08966273. DOI: 10.1016/j.neuron.2016.10.051. URL: http://linkinghub.elsevier.com/retrieve/pii/S0896627316308017.

Pescetelli, Niccolo, Geraint Rees, and Bahador Bahrami (2016). "The perceptual and social components of metacognition." In: *Journal of Experimental Psychology: General* 145.8, pp. 949–965. ISSN: 1939-2222. DOI: 10.1037/xge0000180. URL: http://dx.doi.org/10.1037/xge0000180.supp%20http://doi.apa.org/getdoi.cfm?doi=10.1037/xge0000180.

Rosenberg, L., D. Baltaxe, and N. Pescetelli (2016). "Crowds vs swarms, a comparison of intelligence". In: *2016 Swarm/Human Blended Intelligence, SHBI 2016*. ISBN: 9781509035021. DOI: 10.1109/SHBI.2016.7780278.

Book chapters

(in press): Hybrid intelligence, *Handbook of Computational Social Science*

Teaching Experience

The London Interdisciplinary School   **Graduate Course**
Cracking the Code (Programming in Python)   *2024*
Mode of Instruction: Face-to-Face Lecture
Role: Module Lead

The London Interdisciplinary School	**Undergraduate Course**
Data Science and Machine Learning	*2024*

Mode of Instruction: Face-to-Face Lecture
Role: Module Lead

New Jersey Institute of Technology	**Undergraduate Course**
Introduction to Psychology	*2023*

Mode of Instruction: Face-to-Face Lecture
Role: Module Lead

New Jersey Institute of Technology	**Undergraduate Course**
Principles of Psychometrics	*2022*

Mode of Instruction: Face-to-Face Lecture
Role: Module Lead

New Jersey Institute of Technology	**Undergraduate Course**
Foundations of Cyberpsychology I and II	*2022*

Mode of Instruction: Face-to-Face Lecture
Role: Module Lead

New Jersey Institute of Technology	**Undergraduate Course**
Introduction to Research Methods	*2022*

Mode of Instruction: Face-to-Face Lecture
Role: Visiting Lecturer

New Jersey Institute of Technology	**Undergraduate Course**
Social Psychology	*2021*

Mode of Instruction: Face-to-Face Lecture
Role: Module lead

University of Oxford	**Undergraduate Course**
Memory, Attention and Information Proccessing	*2017*

Mode of Instruction: Face-to-Face Lecture
Role: Tutor

References

1: **Nick Yeung**, Professor of Cognitive Neuroscience, University of Oxford. nicholas.yeung@psy.ox.ac.uk

2: **Mirta Galesic**, Professor, Santa Fe Institute. mirta.galesic@gmail.com

3: **Manuel Cebrian**, Senior Research Scientist, Spanish National Research Council. manuelcebrian-ramos@gmail.com

4: **Bahador Bahrami**, Senior Scientist and Director, Crowd Cognition Lab, Ludwig Maximilian University. bbahrami@gmail.com