Dr Natalia Zdorovtsova

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Overview

I am an **AI researcher and a machine learning engineer**. Previously, I completed a PhD the MRC Cognition and Brain Sciences Unit, University of Cambridge, where my work focused on building computational models that offer a glimpse into the emergence of neurological diversity.

My work across **scientific research, data science, machine learning and AI, policy, and outreach** has prepared me for a career in which I can tackle complex analytic and theoretical problems, work proactively and effectively in to lead interdisciplinary teams, and communicate quantitative results to a diverse set of stakeholders.

Employment

Lane Clark & Peacock LLP — Feb. 2024-Present
Health Analytics Associate Consultant

I build machine learning models that extract meaningful insights from real-world healthcare data. My responsibilities include leading the construction, testing, and deployment of AI (computer vision and LLM) apps and machine learning pipelines, the design and execution of statistical analyses, project management, quality control, report composition, and stakeholder/client engagement.

Education

University of Cambridge — Oct. 2020-Dec. 2023
PhD in Medical Science at the MRC Cognition & Brain Sciences Unit

My PhD was supervised by Prof. Duncan Astle. The goal of my research was to uncover neural mechanisms that support different trajectories of brain development. To do this, I used graph-theoretic models and machine learning methods to study the structural topology and functional dynamics of brain networks in humans. I also worked at the intersection of neurodiversity and education policy.

University of St Andrews — Sept. 2016-June 2020
MA (Honours) in Psychology (specialism in Cognitive Neuroscience)
Degree Classification Awarded: **First Class (Distinction)**

- Awarded the Certificate of Commendation for Outstanding Contribution to Psychology & Neuroscience (2020).

Technical Skills

Languages

- Python
- SQL
- R
- MATLAB

Data Science and AI

- **Training and finetuning CNNs and transformers** to create specialised apps for medical research
- Cleaning and **preprocessing large datasets**, including questionnaires and cognitive tests, neurological data, and medical registry data using Python and SQL
- **Applying ML techniques** to perform classification and regression on image, tabular, timeseries, and NLP data
- **Creating clear, informative visualisations** to showcase insights from statistical analyses

DevOps

- **Leading a team of data scientists** in adopting the use of the Databricks, MLFlow, and MS Azure platforms
- **Testing and deploying numerous ML pipelines** to clients and internal stakeholders at LCP

Leadership

Co-Director, *UK AI Forum* May 2025-Present

I am the founder of UK AI Forum, which strives to build a thriving community of AI researchers in the UK. The UK AI Forum is supported by Meridian Cambridge. Between October and December 2025, we have:

- Orchestrated an 8-week speaker series on Artificial Agents
- Organised the AI & Societal Robustness Conference—an event which will bring together 200+ researchers, policymakers, and industry professionals to discuss the risks and opportunities presented by transformative AI systems.

Co-Lead Organiser, *Belonging in School* initiative Sept. 2022-Sept. 2023

Overseen by my PhD supervisor, Professor Duncan Astle, I helped manage a $100k grant from the Templeton World Charity Foundation to complete two projects centred around evidence-based policymaking in education and social care:

- **Diverse Trajectories to Good Developmental Outcomes Workshop (November 2022)**: Organised and facilitated a multi-disciplinary workshop as part of the Global Scientific Conference on Global Flourishing. This event brought together dozens of leaders in academic research, the charity sector, policy, education, and clinical practice to engage in collaborative processes aimed at improving school-level and national policies in the UK. More information about the event can be found here.
- **Belonging in School Initiative (February-September 2023)**: Collaborated within a small team to produce a free, comprehensive resource for the development of equitable school policies, and organised a launch event for these materials that brought together relevant stakeholders. The resource can be found here.

CEO, Cerebrium Technologies Jan. 2021-Jan. 2022

I have experience as a founder in the portable EEG startup space. In 2021, Cerebrium participated in Cohort IV of Conception X, a London-based deep tech startup accelerator. In my time as CEO, my team and I designed a new open-source EEG headset with modern components.

President of the School of Psychology & Neuroscience at the University of St Andrews July 2019-July 2020

I served as the School President for my department, which involved representing all students within the School of Psychology & Neuroscience and chairing meetings between students and faculty, managing a team of class representatives, organising training events and workshops, and organising the Psychology, Neuroscience, and Biology Student Conference.

Additional Research Positions

Future Impact Group May 2025-Present
Research Fellow

As a FIG Fellow, I am working with Dr Patrick Butlin to pursue a technical AI safety research project. We are investigating the emergence of preferences in AI systems, building on previous utility engineering work by Mazeika et al. (2025).

Department of Psychology & Neuroscience, University of St Andrews Jan. 2018-Jan. 2020
Research Intern

I conducted a research project centred around investigating public assumptions and biases concerning animal minds and the scientific method with Professor Juan Carlos Gomez, Dr Amanda Seed, and Dr Derek Ball.

Edinburgh Zoo Living Links Primate Lab — May 2019-Oct. 2019
Research Intern

I conducted a research project focusing on foraging behaviours, memory processes, and navigation in great apes. This involved contributing to ongoing research at Edinburgh Zoo's Living Links primate lab in collaboration with Professor Josep Call, as well as assisting with a chimpanzee virtual reality foraging task.

Scientific Publications

Invited contribution (book chapter to be published by the Cambridge Press): **Zdorovtsova, N.** (2025). Chapter 3: Taking a transdiagnostic view. *How to support students with SEND better: Using educational neuroscience as a guide*. Cambridge University Press. — Early 2026

Toffoli, L., **Zdorovtsova, N.**, Epihova, G., Duma, G. M., Del Popolo Cristaldi, F., Pastore, M., Astle, D. E., & Mento, G. (2024). Dynamic transient brain states in preschoolers mirror parental report of behavior and emotion regulation. *Human brain mapping*, *45*(14), e70011. — Aug. 2024

Mareva, S., Astle, D.E., Baker, K., Gathercole, S., Holmes, J. … **Zdorovtsova, N.**, Zhang, M. (2024). Mapping neurodevelopmental diversity in executive function. *Cortex*, *172*, 204-221. — Jan. 2024

Zdorovtsova, N. (2024). Reality Resists Classification: A Transdiagnostic, Network-Based Approach to Behavioural and Neural Variation in Childhood. *PhD Thesis; accepted with no revisions.* — Jan. 2024

Zdorovtsova, N., Young, E.J., Akarca, D., Anwyl-Irvine, A., & Astle, D.E. (2023). The entropy of resting-state neural dynamics is a marker of general cognitive ability in childhood. *In preprint on BioRxiv*. — Aug. 2023

Zdorovtsova, N., Jones, J., Akarca, D., Benhamou, E. & Astle, D.E. (2023). Exploring Neural Heterogeneity in Inattention and Hyperactivity. *Cortex*, *164*, 90-111. — July 2023

Other Relevant Publications

Zdorovtsova, N. (2023). Inclusive policies for schools. Published by the Bennett Institute for Public Policy. — Sept. 2023

Zdorovtsova, N., Alcorn, A. M., & Astle, D.E. (2023). Belonging in School Executive Summary: School-level approaches for developing inclusive policy. Medical Research Council Cognition and Brain Sciences Unit, University of Cambridge. — Sept. 2023

Alcorn, A.M., **Zdorovtsova, N.**, & Astle, D.E. (2023). Belonging in School Part 2: A Practical Guide to Inclusive Policy Planning. Medical Research Council Cognition and Brain Sciences Unit, University of Cambridge. — Sept. 2023

Alcorn, A.M., **Zdorovtsova, N.**, & Astle, D.E. (2023). Belonging in School Part 1: An Introduction to School-level Approaches for Developing Inclusive Policy. Medical Research Council Cognition and Brain Sciences Unit, University of Cambridge. — Sept. 2023

Zdorovtsova, N. (2022). Scientists must embrace the reality of neurodiversity. Published in Varsity Magazine. — Nov. 2022

Zdorovtsova, N. (2021). Attention Deficit Hyperactivity Disorder (ADHD): A Brief Summary of Key Research. Salvesen Mindroom Centre, Edinburgh, UK. — Dec. 2021

Zdorovtsova, N. (2020). What is Life? A Crash Course to Autopoiesis. Published in Varsity Magazine. — Jan. 2021