Nicholas Judd

Cognitive scientist

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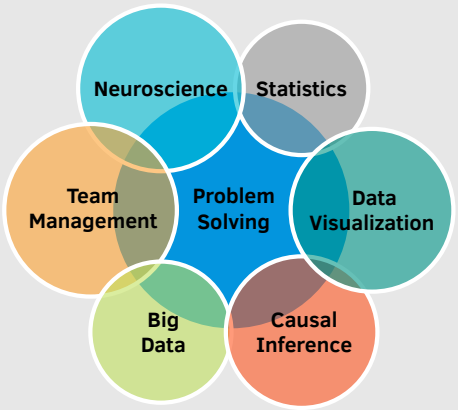
Competencies



Coding

R • Lavaan • lme4 • zsh

SQL • Python • Docker • Git

LaTeX • Julia

Experience

Cognitive training, differential psychology, neuroimaging, causal processes.

Sep 2021-ongoing — **Research Scientist** — **Donders Institute for Brain, Cognition and Behaviour**
Researching how to properly localize the effects of cognition in the brain. The project will have a conceptual section, simulation-based findings, along with empirical cognitive, neural, and genetic data. It is under the supervision of Dr. Rogier Kievit—named life sciences 'Rising Star' by Nature Magazine—he is a professor at Cambridge and Donders.

Sep 2016-ongoing — **Research Scientist** — **Karolinska Institute**
Spanning eight years this has been my longest scientific position, resulting in a variety of projects related to cognitive training, development, and neuroimaging. I carry out project conceptualization, design, analysis and interpretation. My two largest and most impactful studies are highlighted in the section 'Selected Projects'.

My role involves directly supervising master's students in machine learning, medicine, and cognitive neuroscience. Furthermore, I have been fortunate enough to be invited to international conferences around the world to give talks about my research.

Feb 2016-Aug 2016 — **Research Scientist** — **University of Amsterdam**
Collected data and wrote a thesis on high field MR imaging techniques to atlas the human subcortex in the lab of Dr. Birte Forstmann.

Feb 2015-June 2015 — **Researcher** — **Umeå Center for Functional Brain Imaging**
Collected data and wrote a thesis on unconscious working memory in the lab of Dr. Johan Eriksson.

May 2012-Sep 2014 — **Research Assistant** — **University California San Diego**
This project examined the impact of mild traumatic brain injury on cognition, the brain, and psychiatric outcomes in 300 children. Over the years I became more embedded with the project, collecting data, filling out ethics applications, and becoming a certified MRI scan operator. Dr. Jeffrey Max took me under his wing and is truly a scientific mentor of mine – to this day we still meet up and discuss science. This year we published the findings.

Selected Projects

Jan 2018-Jan 2021 — **Vektor Cognitive Training** — **Cognition Matters**

- Worked on the cognitive training app Vektor to implement different spatial training exercises for the goal of improving mathematics in 17,000 children.
- Learned SQL, clustering techniques and mixed effects models.
- Published in a leading Nature journal.
- Was invited for a talk at UCL's Centre for Educational Neuroscience.

Jan 2019-Mar 2020 — **IMAGEN Project** — **Karolinska Institute**

- Led a team of researchers involved the analyses of imaging, genetic and behavioural data.
- Learned advanced statistical methods (e.g., structural equation modeling, confirmatory factor analysis, cluster permutation).
- Directly supervised two masters students.
- Published in a leading journal (PNAS).
- Invited talks at the Annual American Psychiatric Association & an EARLI symposium.

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Education

Feb 2018- Jun 2022	**Ph.D. Neuroscience** Supervisors: Dr. Torkel Klingberg & Dr. Rita Almeida	**Karolinska Institute**
2015-2017	**M.Sc. Brain and Cognitive Sciences**	**University of Amsterdam**
2014-2015	**M.Sc. Cognitive Science**	**Umeå University**
2011-2014	**B.A. (Hons) Psychology**	**DBS School of Arts**

Professional training

May 2021	**Medical Innovation Bootcamp** Carlson School of Management & SESS
May 2021	**Singularity Workshop** Uppsala Multidisciplinary Center for Advanced Comp. Sci.
Apr 2021	**Analyzing data in a HPC environment using R** KTH royal institute of technology
Feb 2019	**Structural Equation Modeling Workshop** Lund University
Jan 2019	**High performance computing introductory Workshop** Uppsala Multidisciplinary Center for Advanced Comp. Sci.
Jun 2018	**HCP Exploring the Human Connectome Workshop** University of Oxford
Apr 2016	**Nuclear Magnetic Resonance Workshop** Spinoza Center for Neuroimaging

Selected Publications

- Judd, N., Klingberg, T. (2021). Training spatial cognition enhances mathematical learning in a randomized study of 17,000 children. **Nature Human Behaviour**, 5, 1548–1554.
- Judd, N., Klingberg, T., Sjöwall, D. (2021). Working memory capacity, variability, and response to intervention at age 6 and its association to inattention and mathematics age 9. **Cognitive Development**, 58, 101013.
- Judd, N., et al., (2020). Cognitive and brain development is independently influenced by socioeconomic status and polygenic scores for educational attainment. **Proceedings of the National Academy of Sciences of the United States of America**, 117(22), 12411–12418.

References are available upon request!