Aran van Hout

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Ambitious Cognitive Neuroscience graduate with a background in neuroimaging and translational research. Highly proficient in Python, with expertise in data analysis and processing using toolboxes such as AFNI, FSL, Nibabel, and Nilearn. Currently working as a Research Assistant at the Lifespan and Cognitive Dynamics Lab where I'm developing a python program to assess fluid reasoning

Education

Master Cognitive Neuroscience /Radboud University Nijmegen (average grade 8.8)
Specialization in Development and Lifelong Plasticity. Thesis: *Comparing Mouse and Human Cingulate Cortex Organization Using Functional Connectivity.* For my master thesis I compared the mouse and human cingulate cortex in terms of functional and structural connectivity, using viral-tracing- and rs-fMRI data.

Course examples: Neuroimaging (9), Haemodynamic Methods (8.5), Advanced Math (9), Python (9), Practical Training and Thesis (9), Neuroanatomy (10)

Bachelor Psychology/Radboud University Nijmegen (average grade: 8.4)
Specialization in brain and behaviour. Thesis: *The Effect of Spatial-Temporal Correlation between Hand and Cursor Trajectories on Sense of Agency.* For my bachelor thesis I investigated the effect of spatial trustworthiness on the sense of agency.

Course examples: *Signal Analysis and MATLAB (8.5), Applied Research Methods of Brain and Cognition (9.0), Brain and Cognition (10), Development of Pro – and Antisocial behaviour (9)*

Stedelijk Gymnasium Arnhem/ Arnhem (graduated with Honors)

Experience

MAY 2024- PRESENT
Research Assistant at Life Span Cognitive Dynamics Lab Nijmegen

- Developing a Python program for the OMSS project, creating a FAIR-alternative to the RAVEN matrices (link).
- Teacher for the *Data Science for Biomedical Research* Master's course
- Member of the organizing committee for the Radboud Ecological Momentary Assessment Center
- Contributing to various research tasks, including data processing and analysis, presenting research at lab and interlab meetings, and team collaborations.

SEPTEMBER 2022- FEBRUARY 2024
Coding manager at Behavioural Science Institute Nijmegen

- Responsible for the practical organization of Wave 14/15 of the Nijmegen Longitudinal Study.
- Responsible for data-processing of Wave 14/15
- Training and supervision of master/bachelor students in coding

SEPTEMBER 2021-SEPTEMBER 2023

Neuro-ecology lab 0xford/Nijmegen

Performing translational rodent research under supervision of Rogier Mars and Joanes Grandjean.

- Data-analysis and coding using Python, FSL and AFNI toolboxes
- Developed a tool which can interact with the Allen Mouse Brain connectivity Database
- Presenting research at numerous lab- and interlabmeetings
- Publication in Nature neuroscience as co-author
- Writing multiple peer-reviews for scientific papers

SEPTEMBER 2022-AUGUST 2023

Research assistant at Donders Centre for Brain and Cognition Nijmegen

Involved in memory research using a variety of neuro-psychological tests, including eye-tracking.

- Cognitive assessment of elderly people
- Setting up online experiments

OKTOBER 2020-APRIL 2021

Student-assistant at the Max Planck Institute for Psycholinguistics Nijmegen

Performing EEG-research and data-processing using phonetic analysis software such as Praat and ELAN.

APRIL 2020-JUNE 2020

Intern at Amarum Centre for clinical eating disorders Nijmegen

Observing and evaluating the intake- and treatment sessions of people with eating disorders

SEPTEMBER 2019-JUNE 2020

Honours Academy Radboud Nijmegen

Select extracurricular program for Bachelor students.

- Small-scale lectures from mental health experts
- Discussion and presentation of research papers

Publications

Van Hout, A. T. B., van Heukelum, S., Rushworth, M. F. S., Grandjean, J., & Mars, R. B. (2023). Comparing Mouse and Human Cingulate Cortex Organization Using Functional Connectivity. Brain Structure and Function *(in press)* https://doi.org/10.1101/2023.09.04.556193

Grandjean, J. Desrosiers-Gregoire, G., Anckaerts, C. et al. A consensus protocol for functional connectivity analysis in the rat brain. Nat Neurosci 26, 673–681 (2023). https://doi.org/10.1038/s41593-023-01286-8

Coolen, I. E., van Langen, J., Hofman, S., van Aagten, F. E., Schaaf, J. V., Michel, L., Aristodemou, M., Judd, N., van Hout, A. T., Meeussen, E., & Kievit, R. A. (2024). Protocol and preregistration for the codec project: Measuring, modelling and mechanistically understanding the nature of cognitive variability in early childhood. *BMC Psychology*, *12*(1). https://doi.org/10.1186/s40359-024-01904-5

Skills

Coding (Python, MATLAB and R) • Data-analysis • Presenting • Critical Thinking • Writing • Collaboration