CURRICULUM VITAE

Personal data

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About me

I'm a PhD-student at the University of Amsterdam and I'm passionate about using **neuroimaging** to answer questions about mental processes, in particular, **how people perceive and process emotional information**. Next to doing research, I enjoy **teaching** (I am BKO-certified) and developing **open-source software** to make neuroscience and psychology more accessible, transparent, and reproducible (see my Github page for my software projects).

Research projects

In my PhD project, I work on a variety of projects that involve modelling psychological constructs and processes – ranging from gender and intelligence to emotion experience and empathy – on the basis of neuroimaging data using state-of-the-art analyses and methods. Below, a selection of these projects are outlined in which I fully or partly (e.g. only the data analysis) involved:

2018-present **Computational (neural) models of facial expression perception**

Topic:	Investigating what information people use to infer emotion from facial expressions using computational modelling of behavior and UHF (7T) fMRI data.
Status:	Analysis
Collab.:	Dr. Steven Scholte, Dr. Suzanne Oosterwijk, prof. dr. Agneta Fischer, dr. Tomas Knapen (VU uni.), Prof. dr. Philippe Schyns and dr. Rachael Jack (Uni. of Glasgow)

2016-2019 **Confounds in MVPA**

Topic:	Investigating the influence and 'treatment' of confounding factors in between-subject multivoxel pattern analysis (MVPA).
Status:	Published in *Neuroimage*

2016-present **The brain basis of morbid curiosity**

Topic:	Analyzing and characterizing the brain basis of "morbid curiosity" (curiosity for negative information, like violence, mutilation, and harm) using task-based fMRI

	Status:	In review
	Collab.:	Dr. Suzanne Oosterwijk
2014-2017	**Shared States**	
	Topic:	Investigating the neural overlap between emotion experience and emotion understanding.
	Status:	Published in *SCAN*
	Code:	github.com/lukassnoek/SharedSates
	Collab.:	Dr. Suzanne Oosterwijk & Dr. Steven Scholte

Teaching

2021-present **Programming in Psychological Science** - ResMas Psychology (UvA)
Developed a two-week Python/PsychoPy course. Materials available at https://lukas-snoek.com/introPy.

2020-present **The Psychology of AI** - Psychology, BSc. (UvA)
Course design and coordination of a new third-year BSc course. Topics: history of AI, symbolic AI, neural networks, behavioral data science, and ethics.

2016-present **Guest lectures** – bachelor & (research) master Psychology (UvA)
Topics: computational (cognitive) neuroscience, artificial intelligence (artificial neural networks), neuroimaging, statistics, Python programming.

2016-present **Supervision research projects/theses (BSc, MSc)**
Supervision of research projects (6x), literature theses (1x), research master theses (5x), and bachelor theses (5x).

2020 **BKO (Basis Kwalificatie Onderwijs)**
I obtained my higher education 'teaching certificate' (BKO) during my PhD (10 April 2020), based on my teaching experience and qualities w.r.t. the two neuroimaging courses (see below) and supervision of BSc and MSc students.

2017-present **Neuroimaging: Pattern Analysis** – Research Master Psychology (UvA)
Developed from scratch, including course design, lectures, and computer labs. Topics: application of machine learning and representational similarity analyses of neuroimaging data.

2013-present **Neuroimaging: BOLD-MRI** – Research Master Psychology (UvA)
Responsible for supervising the labs, grading assignments, creating exams, and giving lectures (on the topics of multivariate methods and functional localization). Involved in the complete reorganization of the course (in 2016), creating a new set of 'computer labs' (programming tutorials and assignments).

Open source software projects

2018-present **exptools2** - https://github.com/VU-Cog-Sci/exptools2
The exptools2 package provides a wrapper around PsychoPy for developing easy, high-fidelity (neuroimaging) experimental paradigms.

2017 **Porcupine** - github.com/TimVanMourik/Porcupine
Porcupine is a graphical user interface to build reproducible neuroimaging pipelines. Users build their pipelines graphically and Porcupine generates the code necessary to execute the pipeline, as well as a complementary Dockerfile to incorporate users' pipelines in a completely reproducible software environment.

2016-present **bidsify -** github.com/spinoza-rec/bidsify
'bidsify' is a tool to convert raw, unstructured MRI data to the BIDS format (bids.neuroimaging.io), allowing easy upload to Openneuro, which in turn helps researchers to make their data and analyses more transparent and reproducible.

2015-present **skbold -** github.com/lukassnoek/skbold, skbold.readthedocs.io
The skbold package is a set of high-level tools for machine learning on BOLD-fMRI data. It is built on top of and complements Python's main machine learning library 'scikit-learn', providing an intuitive data-structure to represent pattern-based fMRI data, functionality for fMRI-specific feature preprocessing/selection/extraction, and tools for feature visualization.

Education

2013-2015 **University of Amsterdam – Research Master Psychology (MSc)**

Major:	Brain and Cognition (cognitive neuroscience)
Minor:	Methodology and Statistics
Thesis:	"On the dimensionality of neural representations" Final grade: 10/10
GPA:	9.3 / 10 (graduated *cum laude*)

2010-2013 **Amsterdam University College – Liberal Arts and Science (BA)**

Major:	Social science (emphasis on cognitive psychology)
Minor:	Science (emphasis on behavioral neuroscience)
Thesis:	"Moral emotions, attentional vigilance, and behavior: Consequences of feeling (im)moral." Final grade: 95%.
GPA:	4.0. Graduated *summa cum laude*.

2003-2009 **Johan van Oldenbarnevelt Gymnasium**

Major:	Social science course curriculum
GPA:	7.9 / 10.

Work experience

Jan 2021-present **University of Amsterdam**
Function: Assistant professor (Universitair docent)
Duties: 55% teaching (BSc/MSc psychology), 45% research.

Nov 2015-present **University of Amsterdam**
Function: PhD student
Project: Investigating computational models of face (expression) perception and their neural implementation.
Promotor: Prof. dr. Agneta Fischer (social psychology)
Supervisors: Dr. H. Steven Scholte (brain & cognition) and Dr. Suzanne Oosterwijk (social psychology)

2013-2015 **Spinoza Centre for Neuroimaging (University of Amsterdam, FMG)**
Function: Lab assistant / MR operator
Duties: Assisting researchers in the 3T (f)MRI scanning procedure. Experience with executing studies using BOLD-MRI, structural MRI, arterial spin labeling and magnetic resonance spectroscopy. Responsible for weekly/monthly quality control of the Philips Achieva 3T scanner. Led an internal project on the signal quality of multiband (multislice-excitation) sequences versus regular BOLD and DTI sequences.

2013-2014 **De Bijlespartner**
Function: Tutor statistics and biological psychology; Thesis supervision of undergraduate psychology theses.
Duties: Helping university students with preparing for their exams, both on an individual basis and for large groups (>10); supervision and assistance in writing, structuring, and data analyses of undergraduate theses.

May-July 2013 **Leiden University / KNAW: Academy Assistants Programme**
Function: KNAW research assistant
Duties: Assisting in executing and data analysis of an fMRI study on reward processing of visually presented stimuli of palatable food and attentional load.

Distinctions, scholarships, and grants

2019 **Poster prize - NVP winter conference 2019 (€100)**
For my poster on “AOMIC: a collection of publicly available population imaging datasets”.

2018 **Grassroots education grant (**with Noor Seijdel; **€1000)**
Award to implement automatic grading/feedback using ‘nbgrader’ in programming education.

2017 **Winner of the TransIP/Tweakers VPS challenge**
My application 'VoxelViz', a web-based app to interactively visualize MRI-data and results, won first place (prize: laptop + VR headset worth €3500) in a competition to develop an original and creative application on a virtual private server (VPS). More information at https://github.com/lukassnoek/VoxelViz.

2015 **Thesis award – Research Master Psychology (€250)**
Award for the best thesis at the Research Master Psychology at the University of Amsterdam, 2014-2015

2015 **1st place – ABC-BIC NeuroImaging Symposium (€ 250)**
Rewarded for the oral presentation of my Research Master internship research ‘Decoding Emotions’.

2015 **Travel stipend – University of Amsterdam (€ 1700)**
Granted several travel stipends to visit the prestigious *Human Brain Mapping* conference (Hononulu, HI, U.S.A.) to present my internship research. Stipends were awarded by the Brain & Cognition group (€1000), the International Office Psychology (€300), and the Graduate School of Psychology (€400).

2014 **Honorable mention – Graduate Research Conference Psychology**
Received an honorable mention regarding the poster presentation of the Decoding Emotions project for receiving the most votes from staff members.

2013 **Thesis of Highest Distinction – Amsterdam University College**
Highest award for bachelor theses at Amsterdam University College

2013 **KNAW assistantship**
Paid assistantship for ambitious and talented students who pursue a career in science and can gain experience in doing research. It was used for setting up and executing an fMRI study at Leiden University under the supervision of Dr. Lotte van Dillen.

2011 **Beta-Beurs Scholarship – University of Amsterdam (€ 4000)**
Received a grant of €4000 to spend on interdisciplinary research as part of my bachelor thesis. It was used in for an electrophysiological study on attentional effects of moral emotions conducted in collaboration with Leiden University.

Skills & proficiencies

Programming **Other**

Python	Extensive	**Linux env**	Intermediate
R	Intermediate	**Git/Github**	Intermediate
MATLAB	Working knowledge	**FSL**	Extensive
Bash	Intermediate	**LaTeX**	Intermediate

Publications

Snoek, L., van der Miesen, M., Beemsterboer, T., van der Leij, A., Eigenhuis, A., & Scholte, H.S. (2020). The Amsterdam Open MRI Collection, a set of multimodal MRI datasets for individual difference analyses. *BioRxiv* preprint, doi: https://doi.org/10.1101/2020.06.16.155317.

Oosterwijk, S., **Snoek, L.**, Tekoppele, J., Engelbert, L. H., & Scholte, H. S. (2020). Choosing to view morbid information involves reward circuitry. *Scientific reports, 10*(1), 1-13.

Hoogeveen, S., **Snoek, L.**, van Elk, M. (2020). Religious Belief and Cognitive Conflict Sensitivity: A Preregistered fMRI Study. *Cortex, 129*, 247-265.

van Elk, M., & **Snoek, L.** (2019). The Relationship Between Individual Differences in Grey Matter volume and Religiosity: A High-Powered Voxel-Based-Morphometry Study. *European Journal of Neuroscience*, Registered Report. DOI: https://doi.org/10.1111/ejn.14563.

Snoek, L.*, Miletic, S.*, & Scholte, H.S. (2019). How to control for confounds in decoding analyses of neuroimaging data. *NeuroImage, 184*, 741-760.

Van Mourik, T., **Snoek, L.**, Knapen, T., & Norris, D. (2018). Porcupine: interactive automatic pipeline software for neuroimaging analysis. See https://timvanmourik.github.io/Porcupine.

Oosterwijk, S.***, Snoek, L.***, Rotteveel, M, L. Barrett & Scholte, S. (2017). Decoding Emotions: Using MVPA to explore the neural overlap between emotion experience and emotion understanding. *Social, Cognitive, and Affective Neuroscience, 12*(7): 1025-1035.

* Authors contributed equally

Invited talks, organized workshops and symposia, and public outreach

“Faces of Science” ambassadorship: science communication and public outreach, including (radio) interviews (*NTR Radio 1, Focus Wetenschap)*, popular science talks, and blogging. See https://www.nemokennislink.nl/facesofscience/wetenschappers/lukas-snoek/.

Good Research Practices, round table discussion at ESCAN conference. Organized together with Dr. Suzanne Oosterwijk. Online, 3 July 2020.

Docker tutorial for scientists. OpenMR Benelux meeting, Nijmegen, 22 January 2018.

Multivariate Pattern Analysis. Invited speaker at the Spinoza Centre fMRI course, Amsterdam, 28 November 2018.

Computational cognitive (neuro)science: what, why, and how? Symposium organized at the University of Amsterdam, Amsterdam, 16 February 2018 (with Jolien Francken and Lola Beerendonk).

Git(hub): version control for scientists. Workshop given for the lab of Dr. Simon van Gaal, University of Amsterdam, Amsterdam, 22 February 2018.

Invited speaker at Howl, a talkshow/dance performance/concert hosted by Spinvis, to discuss the nature of emotion; Purmerend, 11 November 2017.

MVPA of fMRI data in Python, a workshop organized for the "International Conference for Cognitive Neuroscience", Amsterdam, 5 August 2017 (with Steven Miletic). Materials available from lukas-snoek.com/ICON2017.

Decoding the brain and disease: promises and pitfalls of machine learning in science and medicine. Invited speaker at the *Antoni van Leeuwenhoek (Nederlands Kanker Instituut)*, 19 September 2017, Amsterdam, The Netherlands.

Het (on)meetbare brein. Spui25: Proost op de Wetenschap, 12 Mei 2017, Amsterdam, The Netherlands (a popular science talk on the use of brain scans in science and society).

Conference presentations

Miletic, S. & **Snoek, L.** A universal method to deal with confounds in multivoxel pattern analyses. Poster presentation at the *International Conference for Cognitive Neuroscience* (ICON), 5 August 2017, Amsterdam, The Netherlands.

Snoek, L. Decoding Emotions: Using MVPA to explore the neural overlap between emotion experience and emotion understanding. *Associatie van Sociaal-Psychologische Onderzoekers (ASPO) conference,* 12 December 2015, Amsterdam, The Netherlands.

Snoek, L. Local vs. global brain representations. Poster presentation at the *NVP winter conference 2015,* 18 December 2015, Egmond aan Zee, The Netherlands.

Snoek, L. Decoding emotions in the brain. *ABC-BIC Neuroimaging Symposium*, 28 April 2015, Amsterdam, The Netherlands.

Snoek, L. Exploring the neural overlap between emotion experience and understanding. Poster presentation at the *Organization for Human Brain Mapping Conference 2015*, 17 June 2015, Honolulu (HI.), U.S.A.

Snoek, L. Patterns of emotion components. Presented at the *Brain and Emotion EASP pre-conference*, 8 July 2014, Amsterdam, The Netherlands.