Emil Olsson

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Research Experience

University of California Irvine - Cognitive & Neural Computation Lab
LAB MANAGER   *2023 - Present*
- Researching theories of consciousness and metacognition using neuroimaging and computational methods
- Supporting Dr. Megan Peters in managing lab operations and developing tools for computational research infrastructure

Lund University - Faculty of Medicine
RESEARCH SPECIALIST   *2019 - 2023*
- Biomarkers For Identifying Neurodegenerative Disorders Early and Reliably https://biofinder.se/
- fMRI of Early Changes in Alzheimer's Disease

Lund University - Department of Psychology
RESEARCH ASSISTANT   *2018 - 2023*
- The Effect of Mindfulness Training on Physiological, Behavioral and Neural Indices of Fear and Extinction Learning Disorders
- Technologically Enhanced Language Learning and its Effect on the Brain
- Preliminary Evidence of Efficacy and Target Engagement of Pramipexole in Anhedonic Depression
- Neural Substrates of Emotional Processing in Youth with OCD and Anxiety
- Effects on Brain & Cognition from Mindfulness Training in School
- Cognitive Psychological Effects in Mental Illness: Emotional Reactions to Faces and Aversive Sound

Uppsala University - Department of Psychology
RESEARCH ASSISTANT   *2018 - 2023*
- Functional Imaging of the Human Amygdala During Fear Conditioning
- Neural Mechanisms of Fear Exposure Mechanisms in Spiderphobia

Karolinska Institutet - Department of Neurobiology
RESEARCH ASSISTANT   *2019 - 2020*
- Fine Motor Skills and Short-term Plasticity in the Brain

Education

Lund University
MA, COGNITIVE SCIENCE   *2019 - 2021*
- Thesis topic: Cognitive Memory Assessment in 2D and 3D Virtual Reality
- Lab rotations: The Cognitive Zoology Group & Lund Cognitive Robotics Lab

Lund University
BS, PSYCHOLOGY   *2018 - 2019*
- Thesis topic: Long-term Retention of Reinforcement Learning and the Effect of Context

Halmstad University
BS, INTERNATIONAL MARKETING   *2014 - 2017*
- Thesis topic: Customer's Perception of Neuro-Linguistic Programming (NLP) Techniques in Sales Communication
- Internship: Nudge (New York, USA)

Publications

PUBLISHED

Berron, D., **Olsson, E.**, Andersson, F., Janelidze, S., Tideman, P., Duezel, E., Palmqvist, S., Stomrud, E., & Hansson, O. (2024). Remote and unsupervised digital memory assessments can reliably detect cognitive impairment in Alzheimer's disease. *medRxiv.*

Berron, D., Baumeister, H., Diers, K., Reuter, M., Xie, L., **Olsson, E.**, Andersson, F., Wisse, L. E. M., Strandberg, O., Smith, R., Stomrud, E., & Hansson, O. (2022). Hippocampal subregional thinning related to tau pathology in early stages of Alzheimer's disease. *Alzheimer's Association International Conference.*

Björkstrand, J., Karlsson, B., Rosén, J., **Olsson, E.**, Åhs, F., Fredrikson, M., & Frick, A. (2020). High Unconditioned Stimulus Intensity Results in Stronger Threat Conditioning Than Low Intensity. *Biological Psychiatry*

Olsson, E., Gustavsson, L., Magnusson, F., & Sikström, K (2021). Crime Scene Investigation in Virtual Reality. In Johansson, B., Gulz, A., Haake, M., Wallergård, M., Alce, G., Niehorster, D., Nirme, J., Ternblad, E.M., & Tärning, B. (Eds.). *Intelligent, socially oriented technology V: Projects by teams of master level students in cognitive science and engineering. Course Anthology.*

Acknowledgements

Karlsson, MG. "A System for Affective Touch in Humanoid and Social Robotics." (2021). LUP Student Papers.

Extracurricular

Training courses

· Computational Neuroscience Summer Course – Neuromatch Academy
· Mathematics for Machine Learning Specialization - Imperial College on Coursera
· Psychedelic Neuroscience Master Course - Dr. Andrew Gallimore on YouTube
· Principles of fMRI - John Hopkins University on Coursera
· EEG Analysis Seminar Series - Lund University at Campus
· Linux Course 1 year - Valla Folk High School Online

Science Clubs

2018-Now	**The Kaleidoscope Journal Club**, Fellow & Presenter
2020-Now	**The Swedish Network for Psychedelic Science**, Community member
2021-Now	**Existential Risk Association Lund**, Community member

Teaching

Co-Founder, CEO & Tutor - Studero
· Led a team of three to provide weekly private tutoring in core science disciplines to young students for two years.

Technical skills

· Neuroimaging: fMRI, MRI, EEG
· Experiment tools: Eye-Tracking, Skin Conductance Response, Cognitive Assessment, Surveying, Interviewing
· Brain Analyzis: Freesurfer, SPM, FSL, CONN-toolbox
· Coding proficiency: Python, R, MATLAB, Wolfram language, Java, C#
· Experiment design: PsychoPy, Psychtoolbox, E-Prime, Unity, Virtual Reality (VR)
· Creative editing: Adobe Premiere Pro, Blender, Unreal Engine

References

Researcher	**Dr. David Berron**, Group Leader, German Center for Neurodegenerative Diseases *david.berron@dzne.de*
Researcher	**Dr. Johannes Björkstrand**, Assistant Professor, Department of Psychology at Lund University *johannes.bjorkstrand@psy.lu.se*
Researcher	**Dr. Nicola Spotorno**, Associate Researcher, Clinical Memory Research, MultiPark: Multidisciplinary research focused on Parkinson´s disease *nicola.spotorno@med.lu.se*