

Johannes W. de Jong

handejong@gmail.com | +1 (510) 838-5702 | San Francisco, CA

Neuroscientist at UC Berkeley with a primary focus on understanding the brain's reward system. I use high-density electrode arrays (Neuropixels) to record neural signals in rodents which then informs the design of computational models that tell me something about how the brain mediates motivated behavior. Outside of academia, I apply my expertise in machine learning, statistics and data science to the analysis of user behavior in mobile games as an independent data scientist.

SKILLS

Languages: Python, MATLAB, SQL, Linux Shell.

Tools: NumPy, Pandas, Matplotlib, Scikit-Learn, Statsmodels, PyTorch, Keras, NetworkX, OpenCV, Tweepy, spaCy.

Other: Strong communication skills, ability to present/teach complex statistical concepts to students or end users.

Github: github.com/handejong

Google Scholar: bit.ly/gshan

EXPERIENCE

Data Science Consultant

San Francisco, CA, August 2020 - present

- Used machine learning (clustering and gradient-boosted trees) to predict in-app purchases in mobile games. The findings were used for the targeted offering of in-game rewards.
- Analyzed experiment data (A/B tests) looking at user behavior in mobile games.
- Mapped Twitter networks surrounding the Silicon Valley venture capital space and performed network analysis (using techniques developed to study the brain), topic analysis (NLP using spaCy), and trend analysis (non-negative matrix factorization and T-SNE). The findings informed social media marketing decisions of a bank.

Assistant Project Scientist, Lammel Lab, UC Berkeley

Berkeley, CA, March 2020 – present

- Wrote code for GPU-optimized signal processing and data analysis (Python, Sklearn, PyTorch) of large (>1Tb) *in-vivo* electrophysiology data sets. Implemented a model in Python that explains the variation in neural activity in a large data set of simultaneously recorded dopamine neurons (de Jong et al. Nature Neuroscience *in press*).

Postdoctoral Fellow, Lammel Lab, UC Berkeley

Berkeley, CA, March 2015 – March 2020

- Used fiber photometry, optogenetics and *ex-vivo* electrophysiology to delineate a brain network that mediates learning about aversive stimuli and the cues that predict them (de Jong et al. Neuron 2019).
- Developed open source hardware and software (FIPSTER) for *in-vivo* calcium imaging experiments (embedded code in C++, data acquisition and analysis in MATLAB and Python). FIPSTER is now used in several labs around the world for *in-vivo* neuroscience experiments and findings obtained with FIPSTER have been published in peer-reviewed journals.

Doctoral Student, Adan Lab, Utrecht University

Utrecht, The Netherlands, September 2010 – June 2015

- Designed a viral vector for *in-vivo* knock-down of the dopamine D2 auto receptor. Showed that knockdown of this receptor increases motivation for food and cocaine self-administration in rats (de Jong et al. Neuropsychopharmacology 2015).
- Maintained international collaborations while working within the NeuroFAST consortium, a 12-university EU initiative tasked with investigating the interaction between obesity, addiction and stress.

Internships

Yale University, New Haven, CT, January 2010 – August 2010

Utrecht Medical Center, The Netherlands, December 2008 – August 2009

EDUCATION

Utrecht University, Utrecht, The Netherlands:

- **PhD**, Neuroscience, (2015)
- **MSc**, Neuroscience and Cognition, GPA: 4.0/4.0, (2010)
- **BSc**, Biomedical Sciences, GPA: 6.8/10, (2008)

Online self-study:

- **Machine Learning**, (Stanford/Coursera)
- **Deep Learning**, (DeepLearning.AI)