

# Linden Parkes, Ph.D.

Email: [lindenparkes@gmail.com](mailto:lindenparkes@gmail.com)

GitHub: [lindenmp](#)

Publication list: [Linden Parkes](#)

## EXPERIENCE & TRAINING

---

- **The University of Pennsylvania** Philadelphia, PA  
*Postdoctoral Research Fellow*  
March 2019 - Present
  - Network & machine learning analysis of neuroimaging data
- **The University of Pennsylvania** Philadelphia, PA  
*Guest Lecturer*  
Fall 2019
  - Preparation and delivery of teaching material for a class on Network Neuroscience
- **Donders Institute for Brain, Cognition and Behaviour** Nijmegen, The Netherlands  
*Visiting Research Fellow*  
Sept. 2018 - Oct. 2018
  - Development of machine learning Python library for neuroimaging data
- **Torus Games** Melbourne, Australia  
*Research Consultant*  
March 2016 - Oct. 2017
  - Translated research goals to software developers
  - Mobile app development
  - Stakeholder management
  - Database design
- **Monash University** Melbourne, Australia  
*Doctor of Philosophy (Computational Neuroscience)*  
2014 - June 2019
  - Advanced quantitative analysis of high-dimensional multi-source data
  - Data processing pipeline design / implementation
  - Presenting complex information in an accessible format
  - Independent project management (including resource management)
  - Teaching Python / MATLAB programming, data cleaning, visualisation, cloud computing, statistical, and machine learning methods to students

## PROJECTS

---

- **Successfully detected developmental brain abnormalities associated with psychiatric disorders:** All Python code written in **Jupyter notebooks** publicly available on [Github](#)
- **Discovered the genetic signatures of the human brain:** Machine learning on the intersection of human brain imaging and genetics. Provided novel framework for how to bring together different neuroimaging datasets through machine learning. [Paper](#) ranked in the **top 20 downloaded** from the journal in 2017
- **Engineered pipelines for processing brain imaging datasets:** Pipeline generated derivatives needed for subsequent analyses, including quality control reports. I deployed pipeline on multiple open-access datasets using **high-performance computing** and provided concrete recommendations for the field. [Paper](#) ranked by the journal in the **top 20 downloaded** and in the **top 0.01% most cited** publications in 2018 in the field of Neuroscience. All code publicly available on [Github](#)
- **Delivered data-driven brain stimulation targets for psychiatric disorders:** Used generative models to characterize the dysfunctional information flow in brain circuits in order to pinpoint locations for brain stimulation in patient groups. [Paper](#) published in leading **peer-reviewed journal**. All code publicly available on [Github](#)

## SKILLS

---

- **Machine Learning:** Deep Learning, Supervised Classification, Unsupervised Clustering, Regression, Cross-validation, Model Scoring, Parameter Tuning, Feature Selection & Standardization, Dimensionality Reduction
- **Statistics:** Network Analysis, Time Series Analysis, A/B Testing, Analysis of Variance, Data Resampling, Dependent Data
- **Coding:** Python, Matlab, SQL, Shell, Git, Linux OS, High-Performance Computing

## EDUCATION

---

- **Swinburne University of Technology** Melbourne, Australia  
*Bachelor of Science (Psychology, Psychophysiology)*  
2009 - 2013  
*Honours (capstone research project), First Class, Dux (top of the class)*

Full details of presentations, committee service, outreach, and mentorship available upon request.