GRANVILLE MATHESON

I am an academic data scientist with a background in neuroscience. I am a generalist, but my speciality is in statistical modelling and inference, as well as presentation and communication. My work has made international news and been cited in policy[1], I have been involved in developing field-wide guidelines for study reporting to improve replicability[2] and software that I developed for pharmacokinetic modelling[3] is currently in use in numerous institutions across the world. I am passionate about learning new things, and enjoy the challenge of presenting complex results in a compelling way to audiences with different backgrounds.

I am currently looking for a position that allows me to work with complex data to derive useful insights, and to develop tools to streamline the process and make it reproducible.

EDUCATION

2018 | 2014

PhD, Medical Science

Stockholm, Sweden — Karolinska Institutet

- Thesis: Reliability, Replicability and Reproducibility in PET Imaging
- Working with PET imaging of the dopamine system in psychosis and proneness to developing psychosis, as well as methods development.

2013 | 2010

MSc, Cognitive Neuroscience

Utrecht, The Netherlands — Universiteit Utrecht

- Cognitive Neuroscience Track

SELECTED POSITIONS

2022 | 2020

Postdoctoral Researcher*

Columbia University — Molecular Imaging / Biostatistics

- * Cancelled / indefinitely postponed on account of COVID-19 pandemic (NYC)
- Developing Bayesian methods for performing pharmacokinetic modelling using a multilevel framework, with Markov Chain Monte Carlo.

2014 | 2012

Research Assistant

Karolinska Institutet — Cervenka Lab, PET Group

- Respondible for image processing and analysis of MR and PET Imaging data for the Karolinska Behavioural PET Database

SELECTED WRITING

2020

Nonlinear Modelling using nls, nlme and brms

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- A demonstration of how to fit nonlinear models using standard gradient descent optimisation, as well as both frequentist and Bayesian multilel modelling strategies

2018

My Physiological Response to my PhD Defence[4]

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- I recorded my physiological data in the months leading up to my PhD defence, and analysed it here, using data visualisation to tell the story of my sleep changes, and heart rate, both before and during the defence.
- I also wrote an R package for extracting this data from the Withings API. I have been contacted by others from around the world who are using my software.

CONTACT

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LANGUAGE SKILLS

- R
- MATLAB
- Python
- Bash

OPEN SOURCE CONTRIBUTIONS

All projects available at `github.com/mathesong/<name>`

`kinfitr`: R package to perform PET pharmacokinetic modelling
`rwithings`: R package for querying the Withings activity API
`relfeas`: R package using reliability to estimate study feasibility

MORE INFO

See full CV for more complete list of positions and publications.

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Last updated on 2020-04-07.