

# 2019 - present I have focused on

Research Infrastructure

Biomedical Data Science

Community Engagement

**My research was highly interdisciplinary.  
I focused on developing and applying machine learning algorithms to brain scans to validate an aging biomarker in Bipolar Disorder**

Biomedical Data Science

Aging

Psychiatric Disorders

Statistics and ML

# Led a mega-analyses of consortium data validating an ML-derived aging biomarker from 19 international sites adhering to FAIR principles

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<https://www.biostatistics.ca/factor-levels-or-binary-variables-a-case-study-in-statistical-modelling-of-bipolar-disorder-and-the-aging-brain/>

## Factor Levels or Binary Variables? A Case-Study in Statistical Modelling of Bipolar Disorder and the Aging Brain



Renee (Hui Xin) Ng

Renee (Hui Xin) Ng is a PhD candidate in Cognitive Science at UC San Diego and a visiting researcher at the Centre of Medical Image Computing at UCL, where she pursues interdisciplinary research across clinical neuroscience and aging using computational techniques. Her work primarily focuses on understanding the factors that contribute to brain aging in psychiatric disorders, utilizing ML-based metrics to enhance the assessment of bipolar disorder.

### TABLE OF CONTENTS

1. Background
2. Impact of medications on Brain-Predicted Age Difference
3. Summary
4. References

Research paper

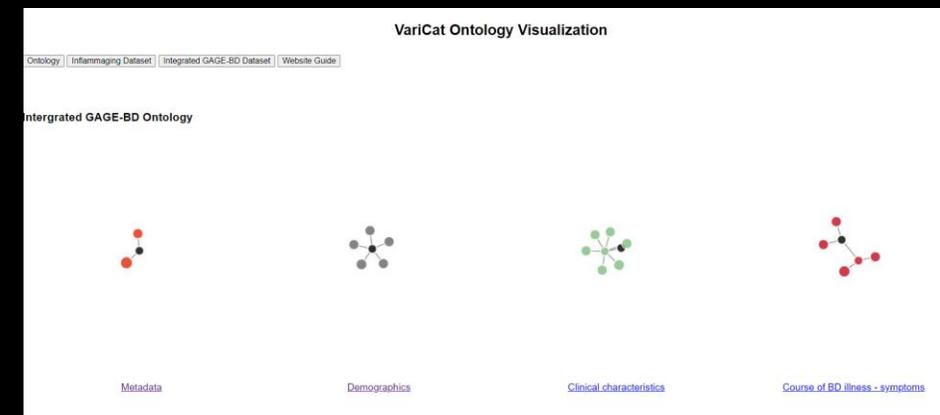
## Brain aging in bipolar disorder using a neuroimaging and machine learning-derived metric: Findings from the ENIGMA BD Working Group

Hui Xin Ng<sup>a,at,bc,bd,be,bn,bq</sup>, Christoph Abé<sup>b</sup>, Martin Alda<sup>c</sup>, Silvia Alonso-Lana<sup>d,e</sup>, Gerard Anmella<sup>l,j,k</sup>, Jochen Bauer<sup>f</sup>, Tiana Borgers<sup>g</sup>, Katharina Brosch<sup>l,ai</sup>, Geraldo F. Busatto<sup>m</sup>, Erlend Bøen<sup>n</sup>, Erick J. Canales-Rodríguez<sup>d,e,g</sup>, Dara M. Cannon<sup>p</sup>, Tiffany M. Chaim-Avancini<sup>m</sup>, James H. Cole<sup>q,r</sup>, Udo Dannlowski<sup>g</sup>, Alan De La Cruz<sup>s</sup>, Karolin Einenkel<sup>oo</sup>, Torbjørn Elvsåshagen<sup>t,u,v</sup>, Pauline Favre<sup>w</sup>, Lukas Fisch<sup>g</sup>, Kira Flinkenflügel<sup>g</sup>, Sonya Foley<sup>x</sup>, Janice M. Fullerton<sup>y,z</sup>, Janik Goltermann<sup>g</sup>, Dominik Grotegerd<sup>g</sup>, Oliver Gruber<sup>oo</sup>, Bartholomeus C.M. Haarman<sup>ab</sup>, Tim Hahn<sup>g</sup>, Tomas Hajek<sup>c,ac</sup>, Laura K.M. Han<sup>bh,ad,bi</sup>, Chantal Henry<sup>oo</sup>, Diego Hidalgo-Mazzei<sup>l,j,k</sup>, Josselin Houenou<sup>w,af</sup>, Fleur M. Howells<sup>ag,ah</sup>, Martin Ingvar<sup>b</sup>, Neda Jahanshad<sup>aj</sup>, Esther Jiménez<sup>l,j,k</sup>, Andriana Karuk<sup>d,e</sup>, Tilo Kircher<sup>l,ou</sup>, Luisa Klahn<sup>op</sup>, Anna Kraus<sup>g</sup>, Axel Krug<sup>l,ai</sup>, Bernd Krämer<sup>oo</sup>, Rayus T. Kuplicki<sup>am</sup>, Beny Lafer<sup>oo</sup>, Mikael Landén<sup>op,ag</sup>, Rodrigo Machado-Vieira<sup>af,as</sup>, Ulrik F. Malt<sup>y</sup>, Fiona M. Martyn<sup>p</sup>, Colm McDonald<sup>p</sup>, Genevieve McPhilemy<sup>p</sup>, Susanne Meinert<sup>g,h</sup>, Tina Meller<sup>l,ou</sup>, Philip B. Mitchell<sup>av</sup>, Benson Mwangi<sup>aw</sup>, Leila Nabulsi<sup>p</sup>, Igor Nenadić<sup>l,ou</sup>, Nils Opel<sup>g,am</sup>, Maria C.G. Otaduy<sup>at</sup>, Bronwyn J. Owers<sup>y</sup>, Mircea Polosan<sup>ay,az,ba</sup>, Edith Pomarol-Clotet<sup>d,e</sup>, Arnaud Pouchon<sup>ay,az,ba</sup>, Joaquim Radua<sup>l,k,bt</sup>, Lisa Rauer<sup>oo</sup>, Jonathan Repple<sup>g,ak</sup>, Gloria Roberts<sup>av</sup>, Elena Rodríguez-Cano<sup>d,e</sup>, Pedro G.P. Rosa<sup>m</sup>, Raymond Salvador<sup>d,e</sup>, Salvador Sarró<sup>d,e</sup>, Theodore D. Satterthwaite<sup>bf</sup>, Jonathan Savitz<sup>an,bg</sup>, Lianne Schmaal<sup>bh,bi</sup>, Peter R. Schofield<sup>y,z</sup>, Maurício Serpa<sup>m</sup>, Kang Sim<sup>bk,bl</sup>, Jair C. Soares<sup>aw</sup>, Natasha Topolski<sup>aw</sup>, Marcio G. Soares-de-Souza<sup>ao</sup>, Dan J. Stein<sup>ag,ah,bj</sup>, Frederike Stein<sup>l,ou</sup>, Ashley N. Sutherland<sup>bm</sup>, Henk S. Temmingh<sup>ah,ba</sup>, Sophia I. Thomopoulos<sup>aj</sup>, Anne Uhlmann<sup>ah,bp</sup>, Eduard Vieta<sup>l,j,k</sup>, Eric Vilojosana<sup>l,k</sup>, Daniel H. Wolf<sup>bf</sup>, Mon-Ju Wu<sup>aw</sup>, Giovana B. Zunta-Souza<sup>aw</sup>, Marcus V. Zanetti<sup>m,br</sup>, Wim van den Brink<sup>bs</sup>, Paul M. Thompson<sup>aj</sup>, Ole A. Andreassen<sup>bt,bu</sup>, Christopher R.K. Ching<sup>aj</sup>, Lisa T. Eyler<sup>bm,bv</sup>, ENIGMA Bipolar Disorder Working Group, ENIGMA Brain Age Working Group

Designed and implemented a variable categorization and visual exploration tool for integrating and harmonizing datasets from the GAGE-BD Consortium

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<https://cwru-non-academic.github.io/varicat/visualizations/how-to.html>

# Developed tools, protocols and tutorials to enhance software sustainability and computational reproducibility

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<https://rnxng.com/articles>

Articles	
Name	Topic
 Remains of the Day - SQL	SQL
 Part I: Reproducible analyses in R with Docker	R, Docker, reproducibility
 Part II: Reproducible analyses in R with Docker	R, Docker, reproducibility, volume-mounting
 Part III: Reproducible analyses in R with Docker	Docker, R, reproducibility, privacy
 Docker for Reproducible Analyses in R	Docker, R, reproducibility, analysis, GitHub, renv
 Creating reproducible analyses... when you're not the author of the code	DevOps, Scientific Computing, Reproducibility, ML
 Using Pyenv and Virtualenv for managing multiple Python versions and environments	Pyenv, Virtualenv, Python
 Docker Diaries: Docker → Singularity	Docker, Singularity, HPC
 Creating a new Docker Image from a Running Container	Docker Image
 Run a Docker container - identify transdiagnostic latent factors	Reproducibility
 hello-world.nf on the research cluster	Nextflow, Bioinformatics
 hello-world.nf meets GitHub Actions	Nextflow, Bioinformatics

<https://hub.docker.com/r/nghuixin/enigmabd-brainage/tags>



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**nghuixin/enigmabd-brainage**  
By [nghuixin](#) · Updated about 2 years ago

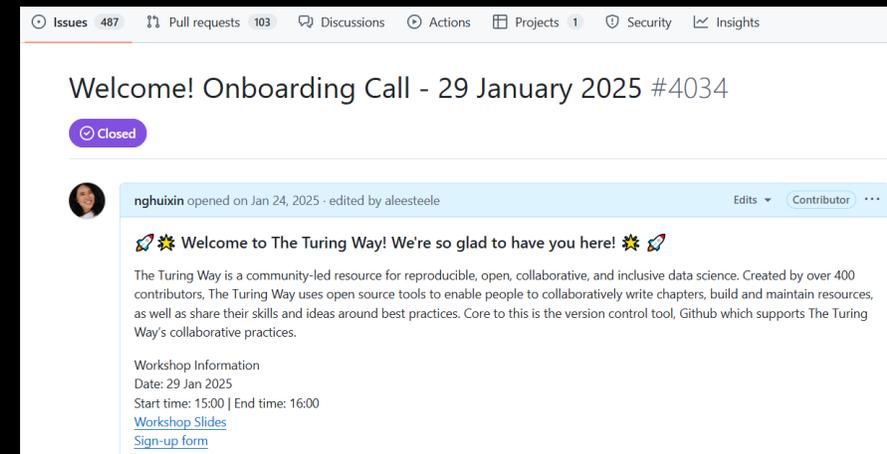
IMAGE

☆0 ↓95

Participated and led initiatives in open scholarship-driven communities such as The Carpentries, The Turing Way, Unjournal, ASAPBio

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“ Renee Ng is an excellent instructor, providing hands-on coding experience. Having helpers in the class for breakout sessions with them is helpful. ”

# In the spirit of increasing access and research impact I enjoy talking and discussing about research in a variety of contexts

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Nucleate AI in Biotech Panel



<https://nucleate-hq.notion.site/Data-Management-and-Regulatory-Compliance-Resource-Page-362863dd9a7d42e98d019a48f6c61055>

Presentation Party



SAn Diego Science Storytelling, Ya'll



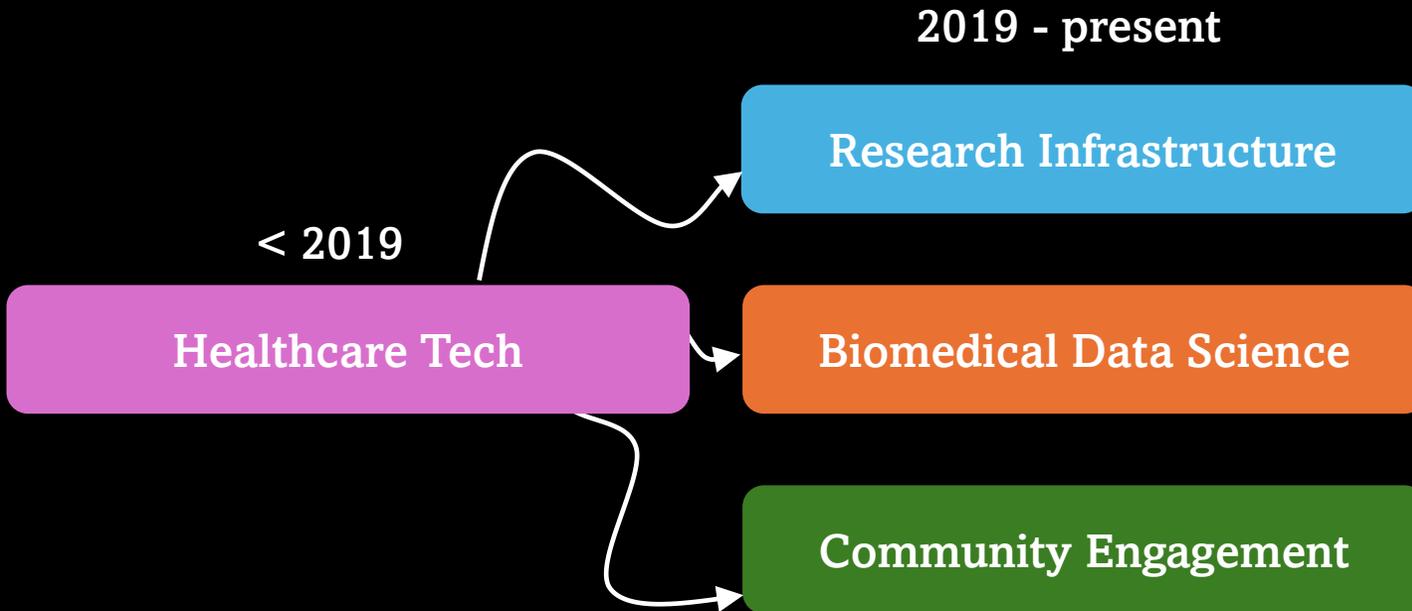
Through my **research**, I developed and applied **tools** that **facilitate collaborative** and **open science** to advance our understanding of **aging in psychiatry**

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# *Psst! Addendum*



**I had interludes within and prior to my research career doing 0-1 product management and UX research in healthcare tech.**

# Psst! Addendum



Health Tech

Product Management

UX Research (Quant & Qual)

Cross-functional alignment

I included these projects as they were early formative experiences that guided me towards my north star –

*Ask me about past projects, detours, and career experiments!*

Site: [rhxng.com](https://rhxng.com)