

# Yunxuan Zheng

Nationality: Chinese  
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## Education

**Georgia Institute of Technology** 2021 –  
Ph.D. in Psychology

— Researcher in Perception, Neuroimaging, and Modeling Lab with Dr Dobromir Rahnev

**University College London** 2017–2018  
MSc Cognitive and Decision Sciences **Classification: Distinction**

— Dean’s List for academic excellence (Top 5%)

— *Thesis*: “Mental State Inferences of the Market Drives Financial Bubbles”; An online experiment exploring how theory of mind biases financial decision-making; Supervised by Dr Lasana Harris. Highest cohort’s dissertation mark (80/100).

**University of Bath** 2013 –2017  
BSc (Honours) Psychology **Classification: Upper Second Class**

— *Thesis*: “Managing workplace attendance dynamics in the ageing society”; A secondary data analysis of a large-scale survey; Supervised by Dr Andrew Weyman.

## **Training Courses:**

Computational Psychiatry, University of Zurich & ETH Zurich	09/2020
Structural Equation Model and Its Applications (online), Chinese University of Hong Kong	05/2020
Bayesian Statistics: Techniques & Models (online), University California Santa Cruz	05/2019
Mathematics for Machine Learning (online), Imperial College London	03-05/2019
Bayesian Statistics: From Concept to Data Analysis (online), University California Santa Cruz	10/2018
London Computational Psychiatry Course, UCL, London, UK	07/2018

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## Academic Experience

Research Assistant, NYU – ECNU Institute of Brain and Cognitive Sciences at NYU Shanghai 10/2019 – 08/2021

- Supervisor: Dr Sze Chai Kwok
- Investigated the neural correlates of metacognition across different cognitive domains with fMRI, DTI and TMS techniques.
- Investigated how the meta-memory ability distorted in clinical populations including patients with schizophrenia and depression
- Analyzed data with linear mixed effect models, hierarchical drift-diffusion model and hierarchical Bayesian meta-d’ model
- Investigated the neural basis of unconscious metacognitive system with epilepsy patients and non-human primates
- Investigated the relationship between aging and metacognitive monitoring & control with resting-state fMRI and DTI

Research Intern, VergutsLab, University of Ghent 04/2019 – 07/2019

- Supervisor: Prof Tom Verguts & Dr Kobe Desender
- Conceptualized a project investigating how confidence predictions modulate physical effort exertion
- Designed the experiments with Python and JavaScript
- Ran an online pilot study and analyzed the data with normative adaptive decision-making models

Research Assistant, Crowd Cognition Lab, UCL Institute of Cognitive Neuroscience 01/2018 - 05/2018

- Supervisor: Dr Bahador Bahrami
- Explored the relationship between individual metacognitive ability and the Fox-Hedgehog cognitive style

- Analysed behavioural data with psychometric functions, Type-II Receiver Operating Characteristic curves and linear regression models
- Contributed to the preparation of a scientific manuscript

Research Placement, UCL Psychology and Language Sciences Division 01/2018 – 04/2018

- Supervisor: Prof Joseph Devlin
- fMRI project investigating whether there was shared neural activity in processing onomatopoeia (e.g. “boom”) and sound-related words (e.g. “guitar”)
- Designed the experiment with Matlab
- Recruited participants and conducted the experiment with 3-T Siemens Trio MRI scanner
- Pre-processed the imaging data with FSL and SPM, and analysed the data with SPM
- Localised the neural activity with the SPM anatomy toolbox

Research Assistant, Self Lab, University of Bath & Tsinghua University 12/2016 - 06/2017

- Supervisor: Dr Jie Sui
- Investigated the effects of depression and personality difference on self-prioritization
- Prepared the ethics application, recruited participants and implemented matching tasks with eye-tracking and EEG techniques
- Analyzed the self-report questionnaires
- Received training on Hierarchical Drift-Diffusion Model
- Contributed to the preparation of presentation
- Participated actively in the design of the laboratory website

Research Placement, Department of Psychology, University of Bath 02/2016 - 07/2016

- Supervisor: Prof Christine Griffin
- Studied how university students’ alcohol consumption changed with the year of study, and the alcohol marketing towards those young group via social media
- Conducted questionnaire survey on alcohol consumption via opportunity sampling method, and analysed the data with ANOVA test
- Conducted semi-structured interviews on the reasons for drinking alcohol, and analyzed the qualitative data coding scheme
- Collected the photos posted publicly by four nightlife venues on Facebook, and investigated whether females were objectified through a content analysis approach

### Publications & Working Papers

**Zheng, Y.**,\* Wang, D.,\* Ye, Q., Zou, F., Yin, J., Li, Y. & Kwok, SC. (2021). Diffusion property and functional connectivity of superior longitudinal fasciculus underpin human metacognition. *Neuropsychologia*.

**Zheng, Y.**, Wang, L., Gerlofs, J., Berna, F., Duan, W., Wang, X., Wang, J., Tang, Y., & Kwok, SC. (under review). Atypical meta-memory evaluation strategy but intact meta-memory ability among schizophrenia patients. *Schizophrenia Research: Cognition*.

**Zheng, Y.**, Jhurry, M., Xian, J., Harris, L. (in prep). Herding and overconfidence in decision-making under financial bubbles.

### Conference & Presentation

Poster presentation at South West Undergraduate Psychology Conference, Bristol, 03/2017

Talk presentation invited by Prof Xiaohong Wan at Beijing Normal University, 12/2019

Talk presentation invited by Prof Shaomin Zhang at Zhejiang University, 12/2020

Poster presentation at SfN Global Connectome, 01/2021

Poster presentation at the 24th meeting of the Association for the Scientific Study of Consciousness, 06/2021

Poster at Metacognition: new developments and challenges, 06/2021

Talk presentation at 2021 Consciousness Research Network meeting, NYU Shanghai, 07/2020

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### **Public Engagement**

‘Bath Taps into Science’ festival, with Dr Jie Sui, Bath, 2017

- Presented the benefits of self-reference learning to primary and secondary school students and teachers
- Introduced participants to a perceptual matching task (i.e. shape-person association) and tested them accordingly

Tate Modern workshop: ‘Self- Impressions’, with Prof Chris Frith, London, 2018

- Introduced the two-tone image task to visitors with various demographic backgrounds, and assessed their confidence levels in relation to perceptual decisions
  - Communicated the underlying theory behind the task
  - In collaboration with other research groups, we exceeded the record for the number of visitors to any Tate Exchange project
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### **Professional Affiliations**

The Association for the Scientific Study of Consciousness; Society for Neuroscience; Cognitive Science Society

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### **Skills**

- Microsoft Office packages
  - Programming and statistical data analysis: Python, JavaScript, Matlab, IBM SPSS, R
  - Neuroimaging data analysis: SPM, FSL, EEGLAB, NeuroExplorer
  - Language: Mandarin (native), English (proficient)
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### **References**

Available upon requests.