Tianyue Cong

1 (773) 794-2829 congtianyue233@gmail.com Tianyue Cong

EDUCATION

University of Chicago Expected 2025
Master of Arts in Computational Social Science *GPA: 4.0/4.0*

Coursework Perspectives on Computational Analysis, Perspectives on Computational Modeling
Computational Linguistics, Computational Content Analysis
Computer Science with Social Science Applications

Honors Maroon Research Scholarship (2023–24)
Social Science Promise Scholarship (2023–24)

The Chinese University of Hong Kong 2019–2023
Bachelor of Science in Applied Psychology (First Class Honors) *GPA: 3.9/4.0*

Coursework Cognitive Psychology, Abnormal Psychology, Decision-Making Process,
Quantitative Methods and Experimental Design, Research Method and Writing

Honors CLASS A Academic Performance Scholarship (2021–22, 2020–21)
CLASS B Academic Performance Scholarship (2019–20)
Dean's List (2021–22, 2020–21, 2019–20)
CUHKSZ Undergraduate Research Awards (approximately $1,000 research grant)

SKILLS AND INTERESTS

Research Interests Computational Psychiatry, Cognitive Modeling, Reverse-Engineering the Mind
Programming Python, R, MATLAB, SPSS, SQL, Linux, LaTeX, Mplus, Stan, C++
Libraries/Software Data Manipulation (**Pandas**), Data Mining (**Scrapy**), Scientific Computing (**NumPy**)
Web Scraping (**Request**, **Selenium**), Visualization (**ggplot**, **Matplotlib**, **Seaborn**)
Neuroimaging (**Nipype**, **Nilearn**, **SPM12**, **cat12**, **FSL**, **FreeSurfer**)
Machine Learning (**PyTorch**, **Scikit-Learn**, **Tensorflow**)
Questionnaire Qualtrics, Credamo
Language Chinese (native), English (IELTS 8; GRE 332+5)

RESEARCH EXPERIENCE

University of Chicago Sept 2023–Present
Research Assistant, Dr. Akram Bakkour's Lab *Chicago, Illinois*

- **Assist** in a project on how feature-based representation may facilitate generalizable predictive knowledge.
- **Implement** a scalable deep learning analysis pipeline for feature extraction in the robot drawing task, tailored for upcoming deployment on the Midway3 High Performance Computing Cluster for large dataset analysis.
- **Employ** Tensorflow and Scikit-Learn to construct and validate predictive Convolutional Neural Networks models, streamlining data preprocessing, analysis, and visualization processes.

Southern University of Science and Technology Jun 2023–Present
Research Assistant, Dr. Jinchu Hu's Lab *Shenzhen, China*

- **Assist** in computational psychiatry research projects on reward reversal learning and decision-making.
- **Perform** data preprocessing and cleaning using the tidyverse package in R.
- **Write** MATLAB and Stan syntax to build 12 reinforcement models (variants of The Rescorla–Wagner and Pearce–Hall learning models).

- **Conduct** parameter recovery, model estimation (including maximum likelihood estimation and Hierarchical Bayesian Modeling), and posterior predictive check using MATLAB and Stan.
- **Visualize** preliminary study results (including line charts, grouped bar charts, and correlation plots) using the ggplot2 package in R for research grant application.

The Chinese University of Hong Kong Mar 2022–Jun 2023
Research Project Leader, Undergraduate Research Fellowship Program *Shenzhen, China*

- **Initiated** a research project to examine the underlying mechanism by which academic stress negatively influences sleep quality.
- **Adapted** a two-factor academic stress scale for Chinese college students in the context of academic involution.
- **Validated** the factor structure of the 10-item academic stress scale using Mplus.
- **Conducted** path analyses using the lavaan package in R and the PROCESS macro in SPSS.
- **Confirmed** (a) two different emotion regulation processes leading to academic stress (i.e., a negative effect of cognitive reappraisal on academic stress whereas a positive effect for expressive suppression) and (b) the serial mediation of social comparison and bedtime procrastination, linking academic stress to sleep quality.

The Chinese University of Hong Kong Sept 2022–May 2023
Research Assistant, Dr. Zhicheng Lin's Lab *Shenzhen, China*

- **Supported** a research project examining the characteristics and development pattern of psychological research through the lens of metascience.
- **Coded** issues from APA and APS (two top psychology journals) over the past few years based on authorship (e.g., number of authors, nations represented) and sample information (e.g., sample size, demographics).
- **Calculated** the Simpson diversity index to determine the racial composition of selected authors and editors from APA and APS using the vegan package in R.

The Chinese University of Hong Kong Sept 2021–May 2023
Research Assistant, Dr. Shi Yu's Lab *Shenzhen, China*

- **Contributed** to a longitudinal study investigating Chinese middle school students' study motivation and meaning of life.
- **Translated** scale items measuring authentic inner compass from Chinese to English.
- **Performed** data cleaning to ensure data quality using Excel and SPSS.
- **Identified** careless responses using data screening methods such as long-string index, psychometric synonyms and antonyms, and even-odd consistency via the careless package in R.
- **Assisted** in designing a questionnaire consisting of 14 scales via Credamo to measure meaning of life and related constructs.

Cambridge University Jul 2021–Aug 2021
Program Participant, Pembroke College Summer Research Program *Shanghai, China*

- **Wrote** a 6000-word review paper on factors predicting intentions to use and reuse online food delivery.
- **Conducted** literature review and summarized theoretical/conceptual frameworks in 16 selected papers.
- **Synthesized** the common factors predicting people's intentions to use and reuse online food delivery and interpreted the similarity and difference in predictors of intentions to use and reuse
- **Evaluated** the strengths and weaknesses in methodology and study design in selected studies and suggested factors and also moderators to be included in future research.
- **Received** first-class marks for the project.

INTERNSHIP EXPERIENCE

iResearch Consulting Group Jun 2022–Aug 2022
Strategy Consulting Intern *Guangzhou, China*

- **Summarized** interviews with opinionated leaders in manufacturing and fast-moving consumer goods industries.
- **Performed** desk research on retail technologies and digital marketing in the wine industry.

- **Analyzed** traffic structure of different channels and tracked customer cross-channel journey, followed by A/B tests to compare between-group differences on customer aims of purchase and Gross Merchandise Value contribution in Excel.
- **Used** shapely value methods for channel attribution and calculation of spillover effects of e-commerce platforms in Excel.
- **Conducted** market basket analysis with apriori algorithm (related goods) and performed logistic regression to determine the significant predictors of purchasing and repurchasing of confectionary goods using R.
- **Wrote** the final report to propose indications on (a) market opportunities for 7 different consumer groups and (b) optimization of 7 touchpoints and ways to speed up consumer conversion on confectionary goods.