# HUIYU CHU

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## EDUCATION

**Technical University of Munich, Munich** *Oct 2022 - now*

*Master of Informatics*

Current GPA: 1.65 / 1.00

Key Courses: Computational Neuroscience, Introduction to Deep Learning, Machine Learning for Graph and Sequential Data, Artificial Intelligence in Medicine, Computer Vision II: Multiple View Geometry, Natural Language Processing, Quantum Computing, IOS development practicum, Data mining practicum.

**Tongji University, Shanghai** *Sep 2017 - July 2022*

*Bachelor of Computer Science and Engineering*

Overall GPA: 4.49 / 5.00

Key Courses: High-Level Language Programming, Machine Learning, Pattern Recognition, Principles of Artificial Intelligence, Introduction to Image Processing, Principles of Database Systems, Chinese Information Processing (NLP).

## RESEARCH EXPERIENCE

**How acetylcholine is correlated with behavioral states and shapes spontaneous neuronal activity in neonatal mice** , Technical University of Munich *Apr 2023 - Feb 2024*

*Interdisciplinary Project, Computational Neuroscience Lab*

*Supervised by: Prof. Dr. Julijana Gjorgjieva,TUM*

- responsible for tracking the movement of facial ROIs corresponding to whiskers, snout, eyelids, and mouth using Deep Learning methods.

**Starbuck Retail Demand Forecasting**, Tongji University *Sep 2021 - May 2022*

*Intern, Starbucks Big Data Team*

*Supervised by: Dr. Dawei Cheng, Tongji University*

- Coordinate efforts using Spark to optimise the prediction model currently running in 82,320 Chinese Starbucks coffee shops. Provided a practical solution during the COVID-19 epidemic.
- Designed a attention-based model(ECAN) to achieve better prediction performance.

**fMRI study of Ultra-High Risk for Psychosis in Undergraduates**, Tongji University *Sep 2019 - Jan 2021*

*Main Team Member*

*Supervised by: Dr. Xiaoliang Gong, Tongji University and Dr. Anthony Cohn, University of Leeds*

- Pre-processed 55.6G structural and functional MRI data from 66 undergraduates using MATLAB packages such as SPM and FreeSurfer.
- Used hypothesis testing (one sample t-test, paired t-test, etc.) to find statistically significant activated cerebral areas serving as input features of trained binary classifiers (like areas in Dorsolateral Prefrontal Lobe).
- Used machine learning methods (SVM, Bayesian classifier, GBDT, and ResNet) to design models of a binary classifier, predicting whether a given MRI image is from a person at high risk of schizophrenia.

## HONOURS AND AWARDS

- Allianz Scholarship, (2022-2024)
- Second Prize of Tongji Scholarship of Excellence – Top 10%, (2019-2020)
- First Prize of Tongji Scholarship of Excellence – Top 5%, (2017-2018)

## SKILLS AND LANGUAGES

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|---|---|
| **Languages:** | English (IELTS 7.0), German (DSH-2) |
| **Data Analysis:** | Python(Pytorch, Pyspark, Sklearn), MATLAB |
| **Software Engineering:** | React, Tomcat, CICD, microservice architecture, docker compartmentization, Git |

## EXTRACURRICULAR EXPERIENCE

**Summer camp**, Institute of Neuroscience, Chinese Academy of Sciences, Beijing, China *Jun 2019 - Sep 2019*

*Participant*

- Conducted research and familiarised myself with protocols in cognitive neuroscience laboratories.
- Engaged in learning the principles EEG data-collection while subject participates in behaviour experiments.