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| **Basic Information** |
| Name: Zhihua Zhong  Email: zhong.z.af@m.titech.ac.jp  *Mathematical and Computing Science Department, School of Computing*  PhD of **Tokyo Institute of Technology**, Tokyo, Japan  **TOEIC** (English ability): 810/1000  **JLPT N1** (Japanese ability): 140/180 |

**Education**

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| * PhD of Artificial Intelligent, Institute of Science Tokyo (IST)   (Major GPA so far: **3.8/4.5**)  Research topic: Human flow pattern analysis in urban city based on big data  Mentor: Prof. Misako Takayasu | *Sep.* 2022 - Nowadays |
| * Master of Computational Mathematics, Jinan University (JNU)   (Major GPA: **88/100, top 10%**)  Thesis: Machine learning prediction models for prognosis of critically ill patients after open-heart surgery  Mentor: Prof. Juan Liu | *Sep.* 2019 - *Jun.* 2022 |

**Academic Article Publication**

**Representative Research: [1], [2], [3], and [6]**

**Urban science data analysis research series (2022-Nowdays):**

**[1]**. (**First**). Zhong, Z., Takayasu, H. & Takayasu, M. Human mobility description by physical analogy of electric circuit network based on GPS data. Sci Rep 14, 13380 (2024).

**[2]**. (**First**). Zhong, Z., Hideki Takayasu, Misako Takayasu. Renormalization method on human mobility resulted in scale invariance and a new type of gravity relation based on RECM. (under review)

**[3]**. (**Co-First, under review**). Human mobility review.

[4]. (**Normal, under review**). Multi-Stage Simulation of Residents' Perception and Decision Making Behavior Regarding Disaster Risk Information: An Exploratory Study on Large Language Model Driven Social Cognitive Agent Framework.

**Data structure and algorithm research series (2022-Nowdays):**

[5]. (**Corresponding, under review**). TTFE.

**Medical science data analysis research series (2019-Nowdays):**

**[6]**. (**First**). Zhong, Z., Yuan, X., Liu, S. et al. Machine learning prediction models for prognosis of critically ill patients after open-heart surgery [J]. Sci Rep 11, 3384 (2021).

[7]. (**Co-first**). Huang Y\*, Zhong Z\*, Liu F. The Association of Coagulation Indicators and Coagulant Agents With 30-Day Mortality of Critical Diabetics [J]. Clin Appl Thromb Hemost. 27:10760296211026385 (2021 Jan-Dec).

[8]. (**Co-first**). Liu, S.\*, Zhong, Z.\* & Liu, F. Prognostic value of hyperuricemia for patients with sepsis in the intensive care unit [J]. Sci Rep 12, 1070 (2022).

[9]. (**Co-first**). Gao M\*, Zhong Z\*, Yue Y, Liu F. Correlation between glycaemic variability and prognosis in diabetic patients with CKD. Endokrynol Pol. 73(6):947-953 (2022).

**Grant**

[1]. Japan Society for the Promotion of Science (**JSPS**) Research Fellowship for Young Scientists DC2 (**Grant Number JP24KJ1060**; from 2024/4 to 2026/4, Doctor, Japan)

[2]. Support for Pioneering Research Initiated by the Next Generation by Japan Science and Technology Agency (**Grant Number JPMJSP2106**; from 2022/9 to 2024/4, Doctor, Japan)

**Award**

* [1]. 人工知能学会全国大会優秀賞(2024, Doctor)
* [2]. Scholarship of Tokyo Tech: Cross the border! Tokyo Tech Pioneering Doctoral Research Project (2022, Doctor)
* [3]. Software Copyright for Project 6 (2021, Master, in China)
* [4]. China National Scholarship for graduate students (2021, Master, only for top 3% of students)

**Project Experiences**

* **Work as academic journal reviewer in 3 different journals (review experience)**

1: BMC Cardiovascular Disorders (2024/11)

2: Scientific Reports (2024/11)

3: Environmental Modelling & Software (2023/12)

* **Joint research and internship with Sony (2023-nowadays)**

1: Joint research: analyse the sales data of Sony’s products, such as TV and camera, and predict the units and price of sales to solve the supply chain problem.

2: Internship:

* **Software and website development (2020-2021)**

1: develop a Windows 10 software for paper [1] based on C++ and Python to predict the probability of gaining a certain disease based on the biochemical data from the patients. (**Publication 1**)

2: develop a website to realise real-time prediction for patients, based on Java and Python

Zhong Z. (2020, September 2). ML-Prediction-Model. Github. (6 and 7 can be found in my Github)

Support material: Github URL: <https://github.com/Zhihua-PredictionModel/ML-Prediction-Model>

**Conference Presentation**

[1]. Novel approaches to human mobility: human mobility description by a physical analogy of electric circuit network based on GPS data, The 37th Annual Conference of the Japanese Society for Artificial Intelligence (2024/5).

[2]. Electric circuit network and application in the human mobility problems-part-2, The 86th National Convention of Information Processing Socity of Japan (IPSJ) (2024/3).

[3]. Electric circuit network and application in the human mobility problems-part-1, Network Science 2023 (2023/12)

[4]. Electric circuit network description of urban human mobility based on GPS data, Physical Society of Japan (2023/9).

[5]. An analysis of human flow pattern based on Revised Electric Circuit Model, Statphys28 (2023/8).