

# ZIPEI GENG

Loorenstrasse 74, 8053 Zürich

☎ +41(0)76-549-84-58

✉ [gzp.uom@gmail.com](mailto:gzp.uom@gmail.com)

🌐 [linkedin.com/in/zipai-fred-geng](https://www.linkedin.com/in/zipai-fred-geng)

🐙 [github.com/zpgeng](https://github.com/zpgeng)

## Education

### ETH Zürich

*M.S. in Statistics*

*GPA: 5.33/6.0*

Sep. 2019 – Present

*Zürich, Switzerland*

### The University of Manchester

*B.S. (Honours) in Mathematics & Statistics*

*GPA: 83.3/100 (top 10%)*

Sep. 2017 – Jun. 2019

*Manchester, United Kingdom*

### Shandong University

*B.S. in Statistics*

*GPA: 4.52/5.0 (top 10%)*

Sep. 2015 – Jun. 2019

*Jinan, China*

## Relevant Coursework

- Introduction to Machine Learning
- Causality
- High-dimensional Statistics
- Statistical Inference
- Applied Analysis of Variance and Experimental Design
- Foundations of Modern Probability
- Deep Learning
- Mathematics of Data Science

## Research Projects

### Nonlinear Variable Selection under Latent Confounding

Oct. 2021

*Master's thesis supervised by Prof. Peter Bühlmann, Dr. Mona Azadkia and Dr. Armeen Taeb*

### Theoretical Properties and Algorithmic Solutions of Shuffled Linear Regression

Sep. 2021

*Semester paper supervised by Prof. Fadoua Balabdaoui*

### Eye Gaze Estimation Using EEG Signals

Feb. 2021

*Course project in collaboration with Ard Kastrati and Martyna Plomecka advised by Prof. Nicolas Langer*

- Proposed to process Electroencephalography (EEG) signals with the implementation of deep neural networks such as EEGNet and Xception to estimate human gaze position (left-right task).
- Successfully built the [coding repository](#) and facilitated to construct neural networks and tune the parameters.
- Actively contributed to the software development of [EEGEyeNet](#).

### Hate Speech Detection on Twitter

Jan. 2021

*Course paper in collaboration with Zehao Su and Stefan Thoma*

- Conducted research on classifying tweets into hate speech, offensive speech, or neither.
- Implemented SMOTE data imputation method to overcome the data imbalance and performs several experiments including BERT-Transformer and SVM to disentangle the semantic space.

### Estimation of Train Weight based on Time Series

May 2020

*Research project working under Swiss Federal Railways in collaboration with Yunrong Zeng and Jiawei Ji*

- Dug thoroughly into denoising the time series and data processing language R.
- Collaboratively estimated the actual weight of the train using non-parametric and parametric denoising methods.
- Led the 3-member group in designing novel data cleaning functions and algorithms.

## Teaching Experience

### 401-0141-00L: Lineare Algebra (D-BAUG)

Summer 2021

*Teaching Assistant (Exam Corrector)*

## Honours & Awards

### School of Mathematics International Excellence Scholarships

Dec. 2018

### Interdisciplinary Contest in Modelling

Jan. 2017

*Honorable Mention*

### Chinese Mathematics Competition

Dec. 2016

*Second Prize*

### First Class Scholarship for Shandong University Undergraduates

Nov. 2016

### Second Class Scholarship for Shandong University Undergraduates

Nov. 2017

## Technical Skills

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**Languages:** R, Python, C++, PySQL, PySpark, Bash

**Developer Tools:** VS Code, RStudio, Jupyter Lab

**Technologies/Frameworks:** Linux, Git, LaTeX, CUDA, PyTorch, Tensorflow