Jiayi Liu

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EDUCATION

University College London, UK — GPA: 4/4
Master of Science - Computational Statistics & Machine Learning; (**with Distinction**) — *Sep 2020 - Oct 2021*

Central University of Finance and Economics, China — Major GPA: 3.9/4
Bachelor of Science - Applied Statistics; (**Ranking Top 10**) — *Sep 2016 - June 2020*

The London School of Economics and Political Science, UK
Visiting Student - Data Science and Machine Learning; (**with A+**) — *July 2019 - Sep 2019*

RESEARCH EXPERIENCE

New Methods of Generating Search Queries Using Bayesian Optimisation
Advisor: Prof. Ingemar Cox (Professor, Department of Computer Science, UCL) — Mar 2021 - Sep 2021
- Developed a Bayesian optimisation-based technique that treats word embeddings as hyperparameters, incorporating query semantics into search query optimisation.
- Performed feature visualisation and pre-processing with statistical techniques to improve estimation accuracy.
- Matched SOTA performance with superior semantic accuracy on the illness rates estimation task.

Nature Language to Program Snippets Generation
Advisor: Prof. Sebastian Riedel (Professor, NLP Lab, UCL) — Mar 2021 - June 2021
- Developed a translator using Transformer Model to convert natural language into programmatic commands (Python snippets), aiming to lower learning difficulty and higher development efficiency.
- Obtained a BLEU score that exceeded the benchmark by 10% and approached the performance of the state-of-the-art method.

Effect Survey of Medical Insurance on Ageing Healthcare Based on CHARLS Data
Advisor: Prof. Miao Liu (Associate Professor, Department of Math & Statistics, CUFE) — Apr 2019 - Apr 2020
- Responsible for on-site data collection and cleaning based on the existing research achievements.
- Assisted the supervisor in building a logistic model, specifying vital outcome differences among various groups.
- Submitted a 14000-word final report and received the "School-level Project Support".

PROFESSIONAL EXPERIENCE

Tencent, Cloud and Smart Industries Group — **Full-time**
Channel of Applied Research — *Mar 2021 - Oct 2021*
- Helped supervisor develop a CNN-based contrastive learning model for lip-sync tasks in 2D virtual humans. Pre-processed videos with image data augmentation techniques and object detection tools.
- Independently developed an attention encoder model for recognising sign language, and optimised it with cross-channel attention as an imitation of the interaction of modalities.
- Actively contributed to the writing of the group standard of China Electronics Industry Standardization Technology Association: *AI - Deep synthetic image system technical specification*.

Tencent, Cloud and Smart Industries Group — **Intern**
Channel of Applied Research — *July 2021 - Feb 2022*
- Developed an overview of contemporary research on Machine Learning fairness and presented outcomes to peers.
- Utilised sentiment analysis techniques to identify toxic(adverse) comments within a provided dataset.
- Developed and executed automated task pipelines incorporating task generation, data processing, and result validation.

HONORS AND AWARDS

- Best Novice, awarded by Tencent Cloud and Smart Industries Group - August, 2022
- Dean's List with Distinction, awarded by University College London - December, 2021
- First-class Honor, awarded by Central University of Finance and Economics - June, 2020
- Scholarship for Outstanding Project, awarded by Central University of Finance and Economics - 2018, 2019
- Merit Winner (Top 10%), Interdisciplinary Math Contest in Modelling(COMAP) - September, 2018

SKILLS

- **Programming**: Python, R, MATLAB, C, SQL
- **Tool**: Pytorch, Tensorflow, Scikit-learn, LaTex, Markdown, Git
- **Languages**: English(Good, IELTS=7, GRE=322+3), Mandarin(Native)