

Fengyuan Liu

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Education Background

University of Oxford , Oxford, England	10/2022-9/2023
<ul style="list-style-type: none"> ● M.Sc. Advanced Computer Science ● Topics Covered: Geometric Deep Learning, Quantum Computation, Deep Learning in Healthcare 	
University of Washington , Seattle, WA	09/2017-12/2020
<ul style="list-style-type: none"> ● B.Sc. in Computer Science ● B.Sc. in Applied Computational Mathematical Science (Data Science & Statistics) ● Magna Cum Laude with GPA: 3.95/4.0 (around top 0.5%) and Dean's List: 10/10 full quarters ● Topics Covered: ML, DL, RL, NLP, Stochastic Process, Cryptography 	

Publications

[1] **OpenFE: Automated Feature Generation beyond Expert-level Performance**

Tianping Zhang, Zheyu Zhang, Zhiyuan Fan, Haoyan Luo, **Fengyuan Liu**, Qian Liu, Wei Cao, Jian Li
International Conference on Machine Learning (ICML), 2023

Ongoing

[4] **Few-shot Model-specific Generated Image Detection**

Fengyuan Liu, Haochen Luo, Jindong Gu, Philip Torr

[3] **An Image is worth 1000 lies: Adversarial Transferability Across Prompts on Vision-Language Models**

Haochen Luo, **Fengyuan Liu**, Jindong Gu, Philip Torr

[2] **DrugGPT: A Knowledge-Grounded Collaborative Large Language Model for Faithful and Evidence-based Drug Analysis**

Hongjian Zhou, Fenglin Liu, Wenjun Zhang, Guowei Huang, Lei Clifton, David Eyre, Haochen Luo, **Fengyuan Liu**, Kim Branson, Patrick Schwab, Xian Wu, Yefeng Zheng, Anshul Thakur, and David A. Clifton

Research Experience

Department of Engineering Science, University of Oxford	Oxford, United Kingdom
<i>Research Intern, TVG, under the supervision of Prof. Philip Torr and Dr. Jindong Gu</i>	05/2023–present
Detecting AI-Generated Images of Open World	
<ul style="list-style-type: none"> ● Propose a dataset with 283528 images that include real images and fake images generated by 7 generative models ● Implement state-of-the-art methods as baselines for two tasks: one focuses on detecting the authenticity of the open-world images, while the other one is to determine if a generated image is generated by a specific model. ● Discuss the feasibility, challenges, and future directions for effectively addressing the proposed tasks [3] ● <i>Two other projects are in the process</i> 	

Institute for Interdisciplinary Information Sciences, Tsinghua University

Research Intern, ADL Group, under the supervision of Prof. Jian Li

Beijing, China

05/2022–10/2022

Automatic Feature Generation

- Used GBDT to design a model called OpenFE to quickly and accurately measure the validity of new features
- Reproduced AutoCross, AutoFeat, SAFE and FCTree methods and compared them with OpenFE
- Did experiments and compared the prediction results with various kinds of databases [1]

Smart beta based on multi-factor models

- Pre-processed raw factors in the tabular form about all stocks listed on the Shanghai and Shenzhen stock markets from 2017 to present
- Dealt with factors by filtering stocks, excluding extreme values, filling null values, doing industry neutral, and standardizing.
- Mainly employed Lightgbm to train and compare the prediction results with different labels (pct1, pct2, or pct5) with various factors combination
- Wrote a script to run once per day to forecast and prepare for practical application

Industry Experience

Morgan Stanley

Part-time Assistant (PTA) of the Investment Analysis Project

01/2020-02/2020

- Analyzed the financial data in the annual and semi-annual reports of ION Geophysical Corporation
- Applied the Altman Z Score and SWOT model to analyze the basic situation, bankruptcy probability and acquisition risks & opportunities of the company

China Telecom Co., Ltd

Nantong, China

Intern at the IT Department

06/2018-09/2018

- Familiarized with the channel-based system positioning, business-based system positioning and customer-based system positioning of the BSS system
- Collected, analyzed and reported customer information through development tools including SQL language and Microsoft Visual Studio

Leadership & Volunteer Experience

SEA Academy

Honor Scholar of Mathematical Studies & Computer Science department

09/2022-Present

- Guided more teenagers to launch research, help them explore their interests and improve the society.

Framework Media Organization

Post-production Officer

05/2018-10/2019

- Worked in teams to produce videos and edited pictures using Premiere Pro, After Effect, and Photoshop

Society of Women Engineers

Member

04/2018-10/2019

- Promoted the diversification of scientific and technological talents, especially women in high-tech fields

Skills & Hobbies

Professional Qualification:

CFA Exam Level I (August 2021): Pass

Computer Skills:

Java, Python, C#, SQL, Java Script, MATLAB, R, LaTeX

Hobbies:

Piano, Swimming, Ancient Chinese Philosophy, Jeet Kune Do