

Fengyuan Liu

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Education Background

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| University of Oxford , Oxford, England | 10/2022-10/2023 (expected) |
| <ul style="list-style-type: none"> ● M.Sc. Advanced Computer Science ● Topics Covered: Graph Representation Learning, Computational Biology, 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 (under review)

Research Experience

Institute for Interdisciplinary Information Sciences, Tsinghua University	Beijing, China
<i>Research Intern, ADL Group, under the supervision of Prof. Jian Li</i>	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

The University of California, Berkeley	Berkeley, CA
<i>Research Intern under the supervision of Prof. F. Alberto Grunbaum</i>	09/2021-01/2022

The Principle and Applications of Random Walks in Various Disciplines

- Researched on random walks in dimensions 1, 2 and 3 to verify that the random walk in each dimension was recurrent or transient
- Studied the applications of random walks in Economics, Physics and Biology
- Published a single-author paper entitled The Principle and Applications of Random Walks in Various Disciplines

University of Washington	Seattle, WA
<i>Undergraduate Researcher, Washington Experimental Mathematics Lab</i>	01/2020-03/2020

Triply Periodic Polyhedral Surfaces

- Studied the Octa-4{3, 8|3}, Octa-8{3, 12|3} and Cube-6{4, 6|4} triply periodic surfaces
- Constructed a new triply periodic polyhedral surface made out of triangles, 12 meeting at each vertex by finding a hyperbolic representation of such a surface using hyperbolic triangles

- Determined the genus of the surface obtained after identifying appropriate pairs of faces
- Advisor: *Dr. Charles Camacho* and *Dr. Dami Lee*

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