

# Tengfei Lyu (吕腾飞)

No.932 South Lushan Road, Changsha Hunan 410083 P.R. China

☎ (+86) 156-7583-3763 | ✉ tengfeilyu@csu.edu.cn | 🏠 tfeilyu.github.io/ | 📄 Google Scholar

**Research Interests:** Graph Data Mining, Graph Neural Networks, Deep Learning, Knowledge Graph, Bioinformatics

## Education

### Central South University

Changsha, Hunan

**MASTER:** COMPUTER TECHNOLOGY

Sept. 2019 - June 2022

- GPA : 3.6/4.0
- List of “Double First-Class” University Project、Project 985、Project 211

### Providence University

Taichung, Taiwan

**EXCHANGE STUDENT**

Sept. 2017 - Jan. 2018

- During this period, I focused on six courses including “Introduction to Algorithms” and “Operating Systems”, with excellent grades and an average score of 94.83

### Bohai University

Jinzhou, Liaoning

**BACHELOR:** COMPUTER SCIENCE AND TECHNOLOGY (SOFTWARE DEVELOPMENT)

Sept. 2015 - June 2019

- Ranking : 1/243; GPA : 4.01/5.0

## Publications

### [1]. MDNN: A Multimodal Deep Neural Network for Predicting Drug-Drug Interaction Events

Tengfei Lyu, Jianliang Gao, Ling Tian, Zhao Li, Peng Zhang and Ji Zhang

The 30th International Joint Conference on Artificial Intelligence (IJCAI), 2021. (CCF A)

### [2]. MGNN: A Multimodal Graph Neural Network for Predicting the Survival of Cancer Patients

Jianliang Gao, Tengfei Lyu, Fan Xiong, Jianxin Wang, Weimao Ke and Zhao Li

The 43th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), 2020. (CCF A)

### [3]. Predicting the Survival of Cancer Patients with Multimodal Graph Neural Network

Jianliang Gao, Tengfei Lyu, Fan Xiong, Jianxin Wang, Weimao Ke and Zhao Li

IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021. (JCR Q1, CCF B)

### [4]. Enhancing Drug-Drug Interaction Event Prediction from Knowledge Graphs by Multimodal Deep Neural Networks

Tengfei Lyu, Jianliang Gao, Ling Tian, Zhao Li, Peng Zhang and Ji Zhang

IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021. Under Review, (JCR Q1, CCF B)

### [5]. Multi-label Metabolic Pathway Prediction with Auto Molecular Structure Representation Learning

Jiamin Chen, Jianliang Gao, Tengfei Lyu, Babatounde Mactard Oloulade, and Xiaohua Hu

IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2021. (CCF B)

### [6]. Protein2Vec: Aligning Multiple PPI Networks with Representation Learning

Jianliang Gao, Ling Tian, Tengfei Lyu, Jianxin Wang, Bo Song and Zhao Li

IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2019. (JCR Q1, CCF B)

### [7]. GraphPAS: Parallel Architecture Search for Graph Neural Networks

Jiamin Chen, Jianliang Gao, Yibo Chen, Mactard Babatounde Oloulade, Tengfei Lyu and Zhao Li

The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), 2021. (CCF A)

## [8]. Graph Neural Architecture Search: A Survey

BABATOUNDE OLOULADE, Jianliang Gao, Jiamin Chen, **Tengfei Lyu**, Raeed Al-Sabri  
Tsinghua Science and Technology, 2021. (JCR Q1)

## Patents

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### [1]. Drug-drug interaction event prediction method, system, terminal and readable storage medium based on multimodal deep neural network

Jianliang Gao, **Tengfei Lyu**; China Invention Patent; Publication Patent Number: CN113012770A

### [2]. Alignment method of protein interaction network

Jianliang Gao, Ling Tian, **Tengfei Lyu**; China Invention Patent; Publication Patent Number: CN109767809A

## Other Projects

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### [1]. Research on Drug Interaction Algorithm Based on Graph Neural Network

**Project Leader**, the Fundamental Research Funds for the Central Universities of Central South University, No.2021zzts0740

### [2]. A Disambiguation Algorithm for Authors with the Same Name Based on Graph Neural Network

**Member**, Hunan Provincial Innovation Foundation for Postgraduate, No. CX20200108

### [3]. Participated in the compilation of the "Thirteenth Five-Year" planning textbook "Spark Big Data Programming Fundamentals (Scala Edition)" for data science and big data technology

**Member**, Mainly responsible for the content compilation of RDD chapters. The textbook was officially published in March 2019. The homepage of the textbook is <http://aibigdata.csu.edu.cn> .

## Awards and Honors

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2021.11 **Goodix Technology Scholarship Special Award**, Awarded by Goodix Technology Co., Ltd.

2021.10 **President Innovation Scholarship**, Awarded by Central South University

2021.09 **First Prize of National Academic Scholarship**, Awarded by Central South University

2020.11 **Third-Class Scholarship**, Awarded by Wondershare Technology Co., Ltd.

2020.10 **National Scholarship**, Awarded by Ministry of Education

2020.10 **Outstanding Student**, Awarded by Central South University

2020.09 **First Prize of National Academic Scholarship**, Awarded by Central South University

2020.07 **ACM SIGIR Student Travel Grant**, ACM SIGIR Conference on Information Retrieval

2019.09 **First Prize of National Academic Scholarship**, Awarded by Central South University

2018.10 **National Scholarship**, Awarded by Ministry of Education

2018.10 **The First Prize Scholarship**, Awarded by Bohai University

2018.06 **Principle's scholarship**, Awarded by Bohai University

2018.06 **Merit Student**, Awarded by Jinzhou City

**Liaoning Provincial Government Scholarship**, Awarded by Department of Education of Liaoning Province

2017.10 **The First Prize Scholarship**, Awarded by Bohai University

2017.06 **Excellent League Member**, Awarded by Jinzhou City

2016.10 **National Scholarship**, Awarded by Ministry of Education

2016.10 **The First Prize Scholarship**, Awarded by Bohai University

# 吕腾飞 (Tengfei Lyu)

湖南省长沙市岳麓区麓山南路 932 号

☎ (+86) 156-7583-3763

| ✉ tengfeilyu@csu.edu.cn

| 🏠 tfeilyu.github.io/

| 📄 Google Scholar

研究兴趣: 图数据挖掘, 图神经网络, 知识图谱, 机器学习, 智慧医疗等

## 教育经历

### 中南大学

长沙, 湖南

硕士, 计算机技术, 计算机学院

2019.09 - 2022.06

• GPA: 3.6/4.0

• 双一流 A 类高校、985、211

### 静宜大学

台中, 台湾

交换生

2017.09 - 2018.01

• 在此期间, 重点研修了《算法导论》、《操作系统》等六门课程, 成绩优秀, 平均分为 94.83

### 渤海大学

锦州, 辽宁

学士, 计算机科学与技术 (软件开发), 信息科学与技术学院

2015.09 - 2019.06

• 成绩排名: 1/243; GPA: 4.01/5.0

## 学术论文

#### [1]. MDNN: A Multimodal Deep Neural Network for Predicting Drug-Drug Interaction Events

Tengfei Lyu, Jianliang Gao, Ling Tian, Zhao Li, Peng Zhang and Ji Zhang

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The 43th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), 2020. (CCF A)

#### [3]. Predicting the Survival of Cancer Patients with Multimodal Graph Neural Network

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IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021. (JCR Q1, CCF B)

#### [4]. Enhancing Drug-Drug Interaction Event Prediction from Knowledge Graphs by Multimodal Deep Neural Networks

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IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2021. (CCF B)

#### [6]. Protein2Vec: Aligning Multiple PPI Networks with Representation Learning

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#### [7]. GraphPAS: Parallel Architecture Search for Graph Neural Networks

Jiamin Chen, Jianliang Gao, Yibo Chen, Moustard Babatounde Oloulade, **Tengfei Lyu** and Zhao Li

The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR**), 2021. (**CCF A**)

#### [8]. Graph Neural Architecture Search: A Survey

BABATOUNDE OLOULADE, Jianliang Gao, Jiamin Chen, **Tengfei Lyu**, Rameed Al-Sabri

Tsinghua Science and Technology, 2021. (**JCR Q1**)

## 发明专利

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#### [1]. 基于多模态深度神经网络的药物-药物相互作用事件预测方法、系统、终端及可读存储介质

高建良, 吕腾飞; 国家发明专利; 公开号: CN113012770A

#### [2]. 蛋白质相互作用网络的对齐方法

高建良, 田玲, 吕腾飞; 国家发明专利; 公开号: CN109767809A

## 其他项目

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#### [1]. 基于图神经网络的药物相互作用算法研究

负责人, 中南大学研究生自主探索项目, No.2021zzts0740

#### [2]. 基于图神经网络的重名作者消歧算法

参与人, 湖南省研究生创新项目 (省级重点), No. CX20200108

#### [3]. 参与数据科学与大数据技术”十三五”规划教材《Spark 大数据编程基础 (Scala 版)》编写

参与人, 主要负责 RDD 章节内容编写, 该教材已于 2019 年 3 月正式出版, 教材主页为 <http://aibigdata.csu.edu.cn>。

## 奖励荣誉

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2021.11 汇顶科技奖学金特等奖, 汇顶科技

2021.10 校长创新奖学金, 中南大学

2021.09 国家学业奖学金一等奖, 中南大学

2020.11 三等奖学金, 万兴科技

2020.10 国家奖学金, 教育部

2020.10 优秀学生, 中南大学

2020.09 国家学业奖学金一等奖, 中南大学

2020.07 **ACM SIGIR Student Travel Grant**, ACM SIGIR Conference on Information Retrieval

2019.09 国家学业奖学金一等奖, 中南大学

2018.10 国家奖学金, 教育部

2018.10 学习优秀奖一等奖, 渤海大学

2018.06 校长奖学金, 渤海大学

2018.06 三好学生, 辽宁省锦州市

2017.10 辽宁省政府奖学金, 渤海大学

2017.10 学习优秀奖一等奖, 渤海大学

2017.06 优秀共青团员, 辽宁省锦州市

2016.10 国家奖学金, 教育部

2016.10 学习优秀奖一等奖, 渤海大学