

# Feng Yu

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## EDUCATION

**Ph.D in Computer Science**, University of Exeter, UK. Sep 2023 – Present

Research interests: Federated Learning, Continual Learning and Edge Artificial Intelligence.

Supervisor: [Prof. Jia Hu](#) and [Prof. Geyong Min](#).

**M.Eng in Cyberspace Security**, Fujian Normal University, China. Sep 2020 – Jun 2023

Research interests: Federated Learning, Edge Computing and Privacy Protection. GPA: 87.88/100

Supervisor: Prof. [Hui Lin](#) and Prof. [Xiaoding Wang](#).

**B.Eng in Computer Science**, Hunan University of Science and Technology, China. Sep 2016 – Jun 2020

Thesis: Application of recommendation algorithm based on RL (**Outstanding**). GPA: 3.34/4.0

Advisor: Prof. [Qiongbin Zhang](#).

## PUBLICATIONS

- [1] **Feng Yu**, Hui Lin, Xiaoding Wang, Sahil Garg, Georges Kaddoum, Satinder Singh, and Mohammad Mehedi Hassan. “Communication-Efficient Personalized Federated Meta-Learning in Edge Networks”. In: *IEEE Transactions on Network and Service Management* 20.2 (June 2023), pp. 1558–1571. DOI: [10.1109/TNSM.2023.3263831](#).
- [2] **Feng Yu**, Hui Lin, Xiaoding Wang, Abdussalam Yassine, and M. Shamim Hossain. “Blockchain-Empowered Secure Federated Learning System: Architecture and Applications”. In: *Computer Communications* 196 (Dec. 2022), pp. 55–65. DOI: [10.1016/j.comcom.2022.09.008](#).
- [3] **Feng Yu**, Qingxin Lin, Hui Lin, and Xiaoding Wang. “Privacy-enhanced federated learning scheme based on generative adversarial networks”. In: *Chinese Journal of Network and Information Security* 9.3 (June 2023), pp. 113–122. DOI: [10.11959/j.issn.2096-109x.2023043](#).
- [4] Jianmin Liu, Xiaoding Wang, Hui Lin, and **Feng Yu**. “GSAA: A Novel Graph Spatiotemporal Attention Algorithm for Smart City Traffic Prediction”. In: *ACM Transactions on Sensor Networks* (Nov. 2023). DOI: [10.1145/3631608](#).
- [5] Ankita Sharma, Shalli Rani, Syed Hassan Shah, Rohit Sharma, **Feng Yu**, and Mohammad Mehedi Hassan. “An Efficient Hybrid Deep Learning Model for Denial of Service Detection in Cyber Physical Systems”. In: *IEEE Transactions on Network Science and Engineering* 10.5 (Sept. 2023), pp. 2419–2428. DOI: [10.1109/TNSE.2023.3273301](#).

## PATENTS AND SOFTWARE

- [1] **Feng Yu**, Hui Lin, Xiaoding Wang, A new type of sports hairband [P]. Utility patent, Fujian Province: CN214904410U, 2021-11-30.
- [2] Jieyu Yang, Lei Jiang, **Feng Yu** et al., “LSTM-based article intelligent generation system”, Computer Software Copyright, HNUST, 2019SR1143843.
- [3] Bowei Zhang, Wenhua Song, Xiaoliang Wang, **Feng Yu**, “Kuang-Chi Security Cloud Monitoring and Early Warning System for Meeting Cars on Curves”, Computer Software Copyright, 2019SR0274946.
- [4] Qian Chen, Qiongbin Zhang, Jieyu Yang, **Feng Yu** et al., “Hele Yiren Pilot Mutual Assistance Platform”, Computer Software Copyright, HNUST, 2019SR0545706

## EXPERIENCE

**R & D Intern (ISG)**, Lenovo Computer Technology Co. LTD, Shanghai Jun 2022 – Sep 2022

Involved: Shell/Java/Python/Web programming, BUG fix, Log platform Design

- Responsible for ESXI VM and LXCA installation automation script programming; Familiar with Git, Maven, Jenkins, shell and PowerShell script syntax;
- Learn the BMC, IPMI, Redfish, LXCA platforms, and the use of Jira and Bugzilla; Master LXCA CFC project back-end code workflow, solve several bugs in CFC project;
- Build CFC Server prompt functionality with the Dojo framework; Learn the programming and development of Server Configuration Pattern function module;
- Design and create the **log platform** based on ELK and Kafka cluster (3 nodes), and further optimize Kafka performance.

<b>Undergraduate Graduation Thesis, HNUST</b>	Dec 2019 – Jun 2020
Involved: <u>Python, Reinforcement Learning, Recommendation algorithm, Bandit algorithm design</u>	
<ul style="list-style-type: none"> <li>Develop the collaborative algorithms via matrix factorization and bandit algorithms;</li> <li>Apply Python to extract preference features from movie data and propose a novel recommendation algorithm based on the idea of gambling machines.</li> </ul>	
<b>Service account development, HNUST, Team leader</b>	Jun 2018 – May 2019
Involved: <u>Java/Web programming, System Design, Software Engineering</u>	
<ul style="list-style-type: none"> <li>Participate in the back-end development of the <b>College's Alumni Association service account</b>;</li> <li>Responsible for the back-end development, front-end and back-end test docking and service launch of the <b>Waku Yiren pilot mutual aid service account</b>.</li> </ul>	
<b>Text Intelligence Challenge, Dagan Data, Team member</b>	Jul 2018 – Oct 2018
Involved: <u>Python, SVM, TF-IDF, XGBoost, Machine Learning and Ensemble Learning</u>	
<ul style="list-style-type: none"> <li>Build a model to predict the category of text through the body of long text data;</li> <li>Apply machine learning algorithms (such as SVM, TF-IDF, XGBoost, etc.), and obtain a <b>Top 10% score</b>.</li> </ul>	
<b>ACM-ICPC training team, HNUST, Team member</b>	Dec 2016 – Jun 2018
Involved: <u>Data Structure, Algorithm, C++, Java and Python programming</u>	
<ul style="list-style-type: none"> <li>Master <b>basic data structure</b>, such as stack, queue, linked list, binary tree, graph, and lookup set, tree array, line tree, bisect graph, etc.</li> <li>Master <b>basic algorithms</b>, such as dichotomy, DFS, BFS, dynamic programming, shortest path algorithm, etc.</li> </ul>	

## SERVICE AND TEACHING

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<b>Conference Organisation</b>	
• IEEE <a href="#">TrustCom'23</a> , <i>Online Session Chair</i>	Nov 2023
• IEEE <a href="#">TrustCom'23</a> , <i>Reception Volunteer</i>	Nov 2023
<b>Teaching Assistant (TA)</b>	
• Computer Networks, <i>TA</i> , FJNU	Sep 2020 – Jan 2021
• Programming Experiment (Data structure and C/C++ programming), <i>TA</i> , HNUST	2017 – 2019
• Object Oriented Programming, <i>TA</i> , HNUST	2017 – 2018
• Advanced Mathematics and Professional Basic Courses, <i>ACT</i> , HNUST	2017 – 2018

## MAIN HONORS AND AWARDS

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China Scholarship Council and University of Exeter ( <b>CSC-Exeter</b> ) <b>Scholarships</b>	2023
<b>Second-class Academic Scholarship</b> in FJNU	2022
<b>Outstanding Graduate in Hunan Province and HNUST (Top 3%)</b>	2020
<b>Outstanding Undergraduate Graduation Thesis</b> of College in HNUST	2020
<b>National Encouragement Scholarship</b> (twice), <b>Outstanding Student Leader</b> in HNUST	2017 & 2019
<b>First prize</b> (twice) in HNUST	2017 & 2019
<b>Merit Student</b> (twice), College Merit Student Model in HNUST	2018 & 2019
Advanced Individual for Academic Research, Innovation and Entrepreneurship Advanced Individual in HNUST	2018
<b>Third prize</b> in Hunan Division of "Ladder Competition" of Chinese universities	2018
<b>Second prize</b> of "Lanqiao Cup" Hunan Province (twice, C++ and Java)	2018
<b>Bronze prize</b> of CCPC Invitational Competition	2018
<b>First prize</b> of National College Students Electronic Creative Innovation Competition in the national preliminary competition,	
<b>Second prize</b> in the final competition	2018
<b>Second prize</b> in Undergraduate Programming Competition in HNUST	2017
<b>Second prize of Hubei Province</b> in National Mathematics League for High School Students	2015

## COMPETENCES

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**Languages** Mandarin (*native*), English (*working proficiency*, IELTS 6.5)

**Programming Languages:** C/C++, Python, Golang, Java, SQL, HTML, CSS, JavaScript, Bash.

**Frameworks & Tools:** Git, L<sup>A</sup>T<sub>E</sub>X, PyTorch, TensorFlow, FATE, FedLab, Flower, FISCO BCOS, Numpy, Pandas, Scikit-learn, CUDA, Flask, ElasticSearch, Logstash, Kibana, Kafka, SpringBoot, React, Angular, Docker, Redis.

**Certificates:** Intermediate Software Designer, CCF Certified Software Professional Top 10% (Sep 2018).

## INTERESTS

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**Sports:** Running, Cycling, Marathon, Climbing, Triathlon, Badminton, Table Tennis, Basketball, Extreme Sport.

**Misc:** Travelling, History, Writing and Learn new technologies, such as federated learning, continual learning, generative adversarial network, deep reinforcement learning, few-shot learning, LLMs, recommendation system and related applications.

Update: 7 Jan 2024