

# Feng Yu

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## EDUCATION

**Ph.D in Computer Science**, University of Exeter. Sep 2023 – Present  
Research interests: Federated Learning, Continual Learning, Edge Artificial Intelligence.  
Advisor: [Prof. Jia Hu](#) and [Prof. Geyong Min](#).  
**M.Eng in Cyberspace Security**, Fujian Normal University. Sep 2020 – Jun 2023  
Research interests: Federated Learning, Edge Computing and Privacy Protection. GPA: 87.88/100  
Advisor: Prof. [Hui Lin](#) and Prof. [Xiaoding Wang](#).  
**B.Eng in Computer Science**, Hunan University of Science and Technology. 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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**, 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; Lean 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.

#### **Undergraduate Graduation Thesis, HNUST**

Dec 2019 – Jun 2020

Involved: Python, Reinforcement Learning, Recommendation algorithm, Bandit algorithm design

- Develop the collaborative algorithms via matrix factorization and bandit algorithms;
- Apply Python to extract preference features from movie data and propose a novel recommendation algorithm based on the idea of gambling machines.

#### **Service account development, HNUST, Team leader**

Jun 2018 – May 2019

Involved: Java/Web programming, System Design, Software Engineering

- Participate in the back-end development of the **College's Alumni Association service account**;
- Responsible for the back-end development, front-end and back-end test docking and service launch of the **Waku Yiren pilot mutual aid service account**.

#### **Text Intelligence Challenge, Dagan Data, Team member**

Jul 2018 – Oct 2018

Involved: Python, SVM, TF-IDF, XGBoost, Machine Learning and Ensemble Learning

- Build a model to predict the category of text through the body of long text data;
- Apply machine learning algorithms (such as SVM, TF-IDF, XGBoost, etc.), and obtain a **Top 10% score**.

#### **ACM-ICPC training team, HNUST, Team member**

Dec 2016 – Jun 2018

Involved: Data Structure, Algorithm, C++, Java and Python programming

- Master **basic data structure**, such as stack, queue, linked list, binary tree, graph, and lookup set, tree array, line tree, bisect graph, etc.
- Master **basic algorithms**, such as dichotomy, DFS, BFS, dynamic programming, shortest path algorithm, etc.

#### SERVICE AND TEACHING

##### **Conference Organisation**

- IEEE Conference on Trust, Security and Privacy in Computing and Communications ([TrustCom](#)),  
*Online Session Chair* Nov 2023
- IEEE Conference on Trust, Security and Privacy in Computing and Communications ([TrustCom](#)),  
*Reception Volunteer* Nov 2023

##### **Teaching Assistant (TA)**

- Computer Networks, TA, FJNU Sep 2020 – Jan 2021
- Programming Experiment (Data structure and C/C++ programming), TA, HNUST 2017 – 2019
- Object Oriented Programming, TA, HNUST 2017 – 2018
- Advanced Mathematics and Professional Basic Courses, ACT, HNUST 2017 – 2018

#### MAIN HONORS AND AWARDS

- China Scholarship Council and University of Exeter (**CSC-Exeter Scholarships**) 2023
- Second-class Academic Scholarship** in FJNU 2022
- Outstanding Graduate in Hunan Province and HNUST (Top 3%)** 2020
- Outstanding Undergraduate Graduation Thesis** of College in HNUST 2020
- National Encouragement Scholarship** (twice), **Outstanding Student Leader** in HNUST 2017 & 2019
- First prize** (twice) in HNUST 2017 & 2019
- Merit Student** (twice), College Merit Student Model in HNUST 2018 & 2019
- Advanced Individual for Academic Research, Innovation and Entrepreneurship Advanced Individual in HNUST 2018
- Third prize** in Hunan Division of "Ladder Competition" of Chinese universities 2018
- Second prize** 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

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COMPETENCES	<p><b>Languages</b> Mandarin (<i>native</i>), English (<i>working proficiency</i>, IELTS 6.5)</p> <p><b>Programming Languages:</b> C/C++, Python, Golang, Java, SQL, HTML, CSS, JavaScript, Bash.</p> <p><b>Frameworks &amp; Tools:</b> 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.</p> <p><b>Certificates:</b> Intermediate Software Designer, CCF Certified Software Professional Top 10% (Sep 2018).</p>
INTERESTS	<p><b>Sports:</b> Running, Cycling, Marathon, Climbing, Triathlon, Badminton, Table Tennis, Basketball, Extreme Sport.</p> <p><b>Misc:</b> 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.</p>