Yuqi Zhao

zhaoyuqi@bupt.edu.cn | 2, Boulevard Lavoisier, 49045 Angers Cedex 01, France

EDUCATION

University of Angers *Sept. 2023 – Now*
PhD Candidate in Computer Science
Supervisor: Prof. Jin-Kao Hao Co-supervisor: Prof. Eric Monfroy

Beijing University of Posts and Telecommunications *Sept. 2020 – June. 2023*
Master of Engineering, Computer Science and Technology
Supervisor: Prof. Xiaohong Huang Co-supervisor: Associate Prof. Dandan Li

- GPA: 85/100
- Award: Outstanding Postgraduate student, First-class scholarship (2021, 2022).

Queen Mary University of London *Sept. 2016 – June. 2020*
Bachelor of Science (Engineering) with First Class Honors

- Joint Bachelor Degree Programmes with Beijing University of Posts and Telecommunications

Beijing University of Posts and Telecommunications *Sept. 2016 – June. 2020*
Bachelor of Management, E-Commerce Engineering with Law
Minor in Internet of Things Engineering

- GPA: 86.06/100 (16/171)
- Relevant Courses: Data Structures (91), Internet Protocols (92), Security and Authentication (95).
- Award: Outstanding Undergraduate, Second-class scholarship (2017, 2019).

RESEARCH EXPERIENCE

Hybrid Heuristic Approaches for Solving Multi-Agent Path Finding (MAPF) Problem *Dec. 2023 – Now*
MAPF is the navigation of agents in a shared environment to a target location without colliding with each other or with obstacles while minimizing travel time. (NP-hard problem for solving optimally and 4/3 sub-optimally)

- Improving feasible solutions through local search and memetic search
- Improving infeasible solutions through penalty-based constraint-solving techniques

A Cluster-Asynchronous Federated Multi-Task Learning (Master Thesis) *Dec. 2021 – June. 2023*
Federated learning enables training devices to learn a shared model while keeping all training data on the devices to protect data privacy. **(Paper submitted to IoT-Journal and under review)**

- Mitigating model accuracy degradation due to data heterogeneity through multi-task learning;
- Mitigating the problem of excessive time consumption due to device heterogeneity by asynchronous training

PATENT

A Network Measurement Method and System (Authorized) *Nov. 2022*
This patent proposes an active measurement system based on the consortium chain to prevent the probe from being used maliciously and ensure the reliability of task results.

- Patent No. ZL202111094990.6
- First student author
- Design and implement the probe system

PROJECT EXPERIENCE

Trusted Distributed Machine Learning Platform *May. 2021 – May. 2022*
Based on the data privacy protection of federated learning, combined with the decentralization, data immutability, and user authentication of consortium chain, design and implement a reliable and secure federated learning system.

- Coordinate work as a team leader;
- Deploy consortium chain distributed;
- Develop consortium chain chaincode and upper layer interface;
- Combine the federated learning system and consortium chain.

Active Measurement System Based on IPv6 *Dec. 2020 – May. 2021*
Active measurement systems (e.g., delay, jitter, ipv6 support score, etc.) are performed by probe devices to assess current IPv4/IPv6 networks.

- Coordinate work as the team leader;
- Implement the network measurement function;
- Implement the ipv6 support measurement for websites.
- Implements the probe authentication, scheduling, and control function;

A Mobile App for Collecting Network Measurement Data (BSc Thesis) *Dec. 2019 – May. 2020*

Supervisor: Associate Prof. Gareth Tyson (QMUL)

An Android App can measure the user's surrounding network conditions and display the results to the user in data visualizations.

- Measure basic network information, bandwidth, and delay;
- Test device connectivity and DNS resolution;
- Implement data visualization.

TEACHING EXPERIENCE

Teaching Assistant for Internet Application *Mar. 2021 – Jul. 2021*

This course is an all-English course, which mainly explains application layer protocols and cutting-edge knowledge.

- Implement and Display experimental demo (FTP client and server by C);
- Answer and guide students to learn and write relevant codes.