

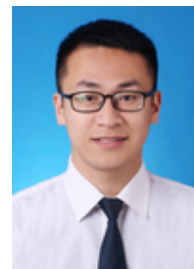
# 周昊

## 计算金融博士 PhD in Computational Finance

英国埃塞克斯大学计算金融与多智能体经济研究中心 (CCFEA)

电话: (+86) 15170368618

邮箱: hz18065@essex.ac.uk



### 基本信息

求职城市	江西南昌	出生日期	1995.05.08	民族	汉族
政治面貌	中共党员	婚姻状况	已婚	籍贯	江西上饶

### 教育经历

英国埃塞克斯大学	计算机与电子工程系	计算金融	博士学位	2019.10 - 2023.04
英国埃塞克斯大学	计算机与电子工程系	计算金融	硕士学位	2018.09 - 2019.06
江西财经大学	经济学院	资产评估	硕士学位	2017.09 - 2019.06
山东工商学院	统计学院	保险学	学士学位	2013.09 - 2017.06

### 工作经历

<b>教学助理 (TA)</b>		英国埃塞克斯大学	
Big-Data for Computational Finance (CF969)	大数据与计算金融	2021-2023	
Algorithmic Game Theory (CE322)	算法博弈论	2019-2022	
Machine Learning and Data Mining (CE802)	机器学习与数据挖掘	2022	
Neural Network and Deep Learning (CE802)	神经网络与深度学习	2021	
<b>科研助理 (RA)</b>		英国埃塞克斯大学	
Conversion M.Sc. Course Evaluation	研究生课程评估		
Field Research	实地调研	2022	
Data Processing and Analysis	数据处理与分析		
<b>市场部助理 (Intern)</b>		中国太平洋保险公司	
Questionnaire Design	问卷设计		
Data Collection	数据收集	2015	
Data Analysis	数据分析		

### 荣誉与奖项

#### 学习与学术方面:

2023年度国际多智能体顶级会议AAMAS学生奖学金	2023
英国数据科学协会学术海报竞赛第三名	2022
2022年度国际多智能体顶级会议AAMAS学生奖学金	2022
英国埃塞克斯大学博士全额奖学金	2019-2022
江西财经大学研究生特等奖学金 (前5%)	2017-2019
江西财经大学与英国埃塞克斯大学合作项目奖学金	2019
第八届全国大学生数学竞赛三等奖	2016
第七届山东省大学生数学竞赛一等奖	2016
第六届山东省大学生数学竞赛一等奖	2015
第五届山东省大学生数学竞赛一等奖	2014
山东省烟台市保险行业协会一等奖学金 (前1%)	2014

#### 体育特长方面:

第十五届江西省大学生运动会乒乓球比赛双打亚军, 团体第四名	2018
国家二级乒乓球运动员	2016
第二十三届山东省大学运动会乒乓球比赛团体第四名	2014

研究方向									
算法博弈论 (Algorithmic Game Theory in Financial Networks)									
本方向主要是从中心化和和去中心化(分布式)的角度来分析在现实大规模金融网络中各个经济智能体的策略博弈行为, 专注于在金融网络中的中心化最优算法、近似算法、以及博弈均衡的存在性、均衡的效率和寻找特定均衡的算法复杂度等问题。									
实证博弈论分析 (Empirical Game-Theoretic Analysis)									
本方向主要运用EGTA方法对现实中大规模金融网络中的博弈行为进行建模与仿真, 并从实证的角度研究整个金融系统的均衡状态及其特征。									
多智能体强化学习 (Multi-Agent Reinforcement Learning)									
本方向主要研究金融网络中多智能体之间的博弈与交互行为, 运用多智能体强化学习等人工智能科技提高金融网络博弈在均衡下的效率和社会福利。									
学术成果									
[1] A Study on the Impact of Strategic Behaviour in Financial Networks <i>A Thesis Submitted for the Degree of Doctor of Philosophy, CCFEA, CSEE, University of Essex</i>						博士毕业论文			
[2] Debt Transfers in Financial Networks: Complexity and Equilibria <i>In Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2023)</i>						国际多智能体顶会			
[3] Strategic Games in Financial Networks: Complexity and Equilibria <i>In Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2023)</i>						国际多智能体顶会			
[4] Forgiving Debt in Financial Network Games <i>In Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI-2022)</i>						国际人工智能顶会			
[5] Forgiving Debt in Financial Network Games (extended abstract) <i>In Proceedings of the 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2022)</i>						国际多智能体顶会			
[6] Financial Network Games <i>In Proceedings of the 2nd ACM International Conference on AI in Finance (ICAIF-2021)</i>						国际人工智能与金融科技交叉领域顶会			
在研课题									
[7] Donating External Assets in Financial Networks <i>Topics: algorithmic game theory, computational finance</i>						70%			
[8] An Agent-Based Model of Strategic Debt Removals in Financial Networks <i>Topics: empirical game-theoretic analysis, evolutionary game theory</i>						40%			
[9] Optimal Systemic Risk Bail-in: An Approach Based on Neural Network <i>Topics: deep learning, optimization</i>						40%			
学术会议与演讲									
British Data Science Society Conference						2022年度英国数据科学协会会员会议			
Oxford Machine Learning Summer School (OxML-Finance)						牛津大学机器学习夏校			
CSEE Seminar Series in Artificial Intelligence						CSEE 人工智能学术系列讲座			
The 15th International Symposium on Algorithmic Game Theory						第15届算法博弈论国际会议			
The 31st International Joint Conference on Artificial Intelligence						第31届人工智能国际会议			
Seminar series organized by Frontiers in Economics and Computation - UK						英国前沿计算与经济系列讲座			
The 31st International Joint Conference on Artificial Intelligence						第31届人工智能国际会议			
The 21st International Conference on Autonomous Agents and Multiagent Systems						第21届多智能体会议			
Summer School on Game Theory and Social Choice organized by CityU, HK						香港城市大学算法博弈论夏校			
The 2nd ACM International Conference on AI in Finance						第2届人工智能与金融科技国际会议			
技能与语言									
编程与绘图									
Python	Matlab	Spss	Eviews	R	Ipe	Draw.io	Photoshop	Offices	
语言能力									
普通话 (母语)		英语 (流利)		法语 (初学者)					

# Hao Zhou

Centre for Computational Finance and Economic Agents (CCFEA)  
School of Computer Science and Electronic Engineering, University of Essex  
Colchester Campus, CO4,3SQ, UK

☎ +44 75 361 28218 ✉ hz18065@essex.ac.uk G Google Scholar in LinkedIn

## CAREER OBJECTIVE

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I am currently a PhD candidate at the Centre for Computational Finance and Economic Agents (CCFEA) in University of Essex. I am eager for continuing scientific research and recently looking for research positions either in academia or industry, working on algorithmic game theory, agent-based modeling, or reinforcement learning, especially in economics and finance.

## RESEARCH INTERESTS

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My research interests lie at the intersection of algorithmic game theory, financial network theory and machine learning. I am highly interested in reasoning about the strategic behaviours in large-scale financial networks from both game-theoretic and empirical perspectives, as well as the applications of reinforcement learning techniques in finance and economics. I am also conducting research on portfolio optimization and asset management in financial networks using deep learning.

## EDUCATION

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- **Ph.D. in Computational Finance** *Oct. 2019 - Present*  
School of Computer Science and Electronic Engineering, University of Essex  
Thesis: *A study on the impact of strategic behaviour in financial networks*  
Supervisors: Maria Kyropoulou and Panagiotis Kanellopoulos
- **M.Sc. in Computational Finance** *Oct. 2018 - Sep. 2019*  
School of Computer Science and Electronic Engineering, University of Essex  
Degree honour: Distinction
- **M.Sc. in Asset Evaluation** *Oct. 2017 - Sep. 2019*  
School of Economics, Jiangxi University of Finance and Economics  
Degree honours: 1<sup>st</sup> Class
- **Diploma in Actuarial Science** *Sep. 2013 - Jun. 2017*  
School of Statistics, Shandong Technology and Business University  
Degree honour: 1<sup>st</sup> Class

## EXPERIENCE

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- **Graduate Laboratory Assistant** *Oct. 2019 - Present*  
School of Computer Science and Electronic Engineering, University of Essex
  - Algorithmic Game Theory (CE322)
  - Big-Data for Computational Finance (CF969)
  - Machine Learning and Data Mining (CE802)
  - Neural Networks and Deep Learning (CE889)
- **Research Assistant** *Feb. 2022 - Jun. 2022*  
School of Computer Science and Electronic Engineering, University of Essex
  - Conversion M.Sc. Course Evaluation

- Field Research
- Data Processing and Analysis
- **Teaching Assistant** Oct. 2017 - Jun. 2018  
 School of Economics, Jiangxi University of Finance and Economics
  - Financial Asset Valuation
  - Financial Markets and Derivatives
  - Financial Risk Management (FRM)
- **Insurance Actuary Assistant** Jun. 2015 - Aug. 2015  
 China Pacific Insurance Company
  - Design Questionnaire and Collect Data
  - Data Analysis

## SCHOLARSHIPS AND AWARDS

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- **Academics**
  - 3<sup>rd</sup> Prize on the Poster Competition of British Data Science Society Conference (2022)
  - Student scholarship by AAMAS Scholarship Committee (2022)
  - Ph.D. scholarship by School of Computer Science and Electronic Engineering, University of Essex (2019-2022)
  - M.Sc. scholarship by Jiangxi University of Finance and Economics (2018-2019)
  - Outstanding award by Jiangxi University of Finance and Economics (2017-2019)
  - 3<sup>rd</sup> Prize on the 8th National College Students Mathematics Competition (2016)
  - 1<sup>st</sup> Prize on Shandong College Students Mathematics Competition (2014, 2015)
  - 1<sup>st</sup> Class scholarship issued by Yantai Insurance Association (Top 1%)
- **Sports**
  - 2<sup>nd</sup> Place on the Table Tennis Competition at University Games of Jiangxi Province (2018)
  - China National Second-Level Table Tennis Player (2016)
  - 4<sup>th</sup> Place on the Table Tennis Competition at University Games of Shandong Province (2015)

## PUBLICATIONS <sup>1</sup>

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- [1] **Debt Transfers in Financial Networks: Complexity and Equilibria**  
 Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou  
*In Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2023)*
- [2] **Forgiving Debt in Financial Network Games**  
 Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou  
*In Proceedings of the 31st International Joint Conference on Artificial Intelligence (IJCAI-2022)*
- [3] **Forgiving Debt in Financial Network Games (Extended Abstract)**  
 Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou  
*In Proceedings of the 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2022)*
- [4] **Financial Network Games**  
 Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou  
*In Proceedings of the 2nd ACM International Conference on AI in Finance (ICAIF-2021)*

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<sup>1</sup>The order of authors is alphabetical

## WORKING PAPERS

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[1] **Strategic Games in Financial Networks: Complexity and Equilibria (A Job Market Paper)**

Hao Zhou

**Topics:** *Algorithmic Game Theory, Computational Optimization*

[2] **Donating External Assets in Financial Networks**

Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou

**Topics:** *Algorithmic Game Theory, Theoretical Finance, Reinforcement Learning*

[3] **An Agent-Based Model of Strategic Debt Removals in Financial Networks**

Panagiotis Kanellopoulos, Maria Kyropoulou and Hao Zhou

**Topics:** *Empirical Game-Theoretic Analysis, Evolutionary Game Theory*

[4] **Optimal Systemic Risk Bail-in: A Approach Based on Neural Network**

Hao Zhou

**Topics:** *Deep Learning in Finance*

## SELECTED TALK, PRESENTATION, AND SEMINAR PARTICIPATION

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- British Data Science Society Conference (2022)
- Oxford Machine Learning Summer School (OxML-Finance 2022)
- CSEE Seminar Series for Artificial Intelligence
- The 15th International Symposium on Algorithmic Game Theory (SAGT-2022)
- The 31st International Joint Conference on Artificial Intelligence (IJCAI-2022)
- Seminar series organized by Frontiers in Economics and Computation - UK
- The 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2022)
- Summer School on Game Theory and Social Choice organized by CityU, HK (2021)
- Essex Summer School in Social Science and Data Analysis (2021)
- The 2nd ACM International Conference on AI in Finance (ICAIF-2021)
- 3MT Presentation Competition (2020)

## SKILLS

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• Python • Matlab • Spss • Eviews • R • Sql • Stata • Offices • Ipe • Draw.io • Photoshop

## REFERENCES

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**Dr Maria Kyropoulou**

Senior Lecturer

School of Computer Science and Electronic Engineering,

University of Essex

maria.kyropoulou@essex.ac.uk

**Dr Feihu Yang**

Professor of Economics

School of Economics,

Jiangxi University of Finance and Economics

yfh168@sina.com

**Dr Panagiotis Kanellopoulos**

Lecturer

School of Computer Science and Electronic Engineering,

University of Essex

panagiotis.kanellopoulos@essex.ac.uk

**School of Computer Science and Electronic Engineering**

CSEE School Office

University of Essex,

Colchester Campus

csee-schooloffice@essex.ac.uk