

# Juan Zhang (She/her)

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## Education

- Sep.2017– **Ph.D. in Computer Science.**  
Mar.2022 **University of Exeter, UK**  
Supervisors: Dr. Yulei Wu and Prof. Geyong Min
- 2011–2014 **M.Sc. in Control Science and Engineering.**  
**Beihang University, Beijing, China**  
Supervisor: Dr. Guoqi Li
- 2006–2010 **B.Eng. in Mechanical Design Manufacturing & Its Automation.**  
**Jiangsu University, China**

## Research & Project Experience

- Sep 2017 – PhD Researcher.  
Mar 2022 Smart Networks & Services (SmartNetS) Lab, **University of Exeter, UK**  
Topic: Offloading decision making strategies and applications in mobile edge computing  
Supervisors: Dr. Yulei Wu, Prof. Geyong Min.
- Sep 2015 – Research Assistant.  
Mar 2017 Department of Computer Science, **University of Otago, New Zealand**  
Project Topic: QoE-aware and energy-efficiency in mobile multimedia transmission.
- Sep 2014 – PhD Student | Research Assistant.  
Sep 2015 **Beihang University, Beijing, China**  
Topic: Big data and Reliability in Traffic Networks.  
Supervisors: Prof. Xiaolei Ma, Prof. Yunpeng Wang.
- Mar 2014 – Network Architecture Engineer Internship.  
Sep 2014 **SINA Company, Beijing, China**  
Designed and developed an ontology-based intelligent system to warn the faults of servers semi-automatically.
- Sep 2013 – Research Assistant.  
Mar 2014 Laboratory of Computer Integrated Manufacture System, Department of Automation,  
**Tsinghua University, Beijing, China**  
Participated the project – Laser cladding-melting- Sintering L-SS platform software system.  
Built a L-SS system platform making the selection and control of the light path of the laser network for 3D print work. Terminal control, device running visualization, data's analysis and forecast, monitor and alarm for device are realized.

- Jul 2011 – Postgraduate Researcher | Participated several projects as a key member.
- Jul 2013 **Beihang University, Beijing, China**
- Project 1: Development of ontology knowledge platform for failure modes identification and verification.
  - Project 2: Safety analysis of aircraft embedded software systems based on multiple synergistic models.
    - Responsibility: Built a traceable meta-model and analyzed its safety.
  - Project 3: Software failure modes and effects analysis tool development.
    - Responsibility: Participated the development of the tool, finished the test and tool guide.
- Supervisor: Dr. Guoqi Li
- Jul 2011 – Project member.
- Jan 2013 **AVIC Aerospace Power Control System Research Institute, Wuxi, China**
- Software FMEA for Engine Control System of a Specific Aircraft.
- Responsibility: Performed requirements analysis and failure modes analysis.
- Supervisor: Dr. Guoqi Li

## Publications

### Journal Papers

- [J10] **Juan Zhang**, Yulei Wu, Geyong Min, Revenue Maximization of Network Operators in Maritime Communications Assisted by Hybrid Satellite-UAV-Terrestrial Networks. *Transactions on Parallel and Distributed Systems (TPDS 2022 Under Review)*.
- [J9] Pangwei Wang, Rongsheng Ye, **Juan Zhang\***, Tianren Wang, An eco-driving controller based on intelligent connected vehicles for sustainable transportation. *International Journal of Coal Science & Technology (Under Review)*.
- [J8] Pangwei Wang, Xiao Liu, Yunfeng Wang, Tianren Wang and **Juan Zhang\***, Short-term Traffic State Prediction Based on V2X and Mobile Edge Computing. *Applied Sciences (Appl. Sci. 2021)*.
- [J7] **Juan Zhang**, Yulei Wu, Geyong Min, and Keqin Li, Scalable Optimization of Game Theoretical Offloading for Vehicular Edge Computing: A Neural Network Based Transfer Learning Approach. *IEEE Transactions on Mobile Computing (TMC 2021 Under Review)*.
- [J6] Pangwei Wang, Yunfeng Wang, Xu Wang, Ying Liu and **Juan Zhang\***, An intelligent actuator of an indoor logistics system based on multi-sensor fusion. *Actuators for Land Transport (Actuators 2021)*.
- [J5] Pangwei Wang, Hui Deng, **Juan Zhang\***, Li Wang, Mingfang Zhang, and Yongfu Li, Model Predictive Control for Connected Vehicle Platoon under Switching Communication Topology. *IEEE Transactions on Intelligent Transportation Systems (TITS 2021)*.
- [J4] **Juan Zhang**, Yulei Wu, Geyong Min, Fei Hao, Laizhong Cui, Balancing Energy Consumption and Reputation Gain of UAV Scheduling in Edge Computing. *IEEE Transactions on Cognitive Communications and Networking (TCCN 2020)*.
- [J3] Pangwei Wang, Yunfeng Wang, Hui Deng, Mingfang Zhang, **Juan Zhang\***, Multilane Spatiotemporal Trajectory Optimization Method (MSTTOM) for Connected Vehicles *Journal of Advanced Transportation (JAT 2020)*.
- [J2] Pangwei Wang, Hui Deng, **Juan Zhang\***, Mingfang Zhang, Real-time Urban Regional Route Planning Model for Connected Vehicles based on V2X Communication. *Journal of Transport and Land Use (JTLU 2020)*.
- [J1] Guoqi Li, **Juan Zhang**, A Novel Ontology-Based Method to Represent and Classify Failure Modes of Sensors. *Sensors & Transducers Journal (STJ 2013)*.

## Conference Papers

- [C6] **Juan Zhang**, Yulei Wu, Geyong Min, System Revenue Maximization for Offloading Decisions in Mobile Edge Computing. *IEEE International Conference on Communications (ICC 2021)*.
- [C5] **Juan Zhang**, Yawen Chen, Haibo Zhang, Fangfang Zhang, QoE-aware and Energy-efficient Transmission of Multimedia Traffic in Wireless Networks. *In Proceedings of the 2018 International Conference on Sensor Networks and Signal Processing (SNSP 2018)*.
- [C4] **Juan Zhang**, Guoqi Li, A Novel Model-Based Method for Automatic Generation of FMEA. *In Proceedings of the 2nd International Symposium on Computer, Communication, Control and Automation (3CA 2013)*.
- [C3] **Juan Zhang**, Guoqi Li and Xiao Liu, Compare of Formal Analysis and Testing for Verification of Safety-critical Systems: A Case Study. *In Proceedings of the 2nd International Conference on Systems Engineering and Modeling (ICSEM 2013)*.
- [C2] Xiao Yang, Li Guoqi and **Zhang Juan**, Passive Data Storage Based Housewares Store Management System. *In Proceedings of the International Conference on Web Information Systems and Mining (WISM 2011)*.
- [C1] Yuchao Zhang, Guoqi Li, **Juan Zhang**, QP Based Framework for Development and Formal Verification of Flight Control Software of UAV. *In Proceedings of the 3th International Conference on Artificial Intelligence and Computational Intelligence (AICI 2011)*.

## Chinese Patent

- [P1] **Juan Zhang** and Guoqi Li, A kind of FMEA process and information management method based on template modelling and text matching. 2012.06.28 / 201210218687.7 (**CN102831152B**).

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## Teaching Experience (Teaching Associate)

- Autumn 2021 **ECM2414: Software Development.**  
140hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Yulei Wu
- Summer 2021 **ECMM445: Learning from Data.**  
60hrs workshop for master students, Department of Computer Science, University of Exeter  
Instructor: Dr. Bader-El-Den, Mohamed
- Spring 2021 **ECM3401: Literature Review and Project Specification.**  
30hrs for year 3 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Yulei Wu
- Spring 2021 **ECM3408: Enterprise Computing.**  
60hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Zeliang Wang
- Autumn 2020 **ECM3420 & ECMM457, ECMM445: Learning from Data.**  
60hrs workshop for year 3 and master students, Department of Computer Science, University of Exeter  
Instructor: Dr. Bader-El-Den, Mohamed
- Autumn 2020 **ECM2414: Software Development.**  
140hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Yulei Wu
- Autumn 2019 **ECM3420 & ECMM445: Learning from Data.**  
60hrs workshop for year 3 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Hugo Barbosa

- Autumn 2019 **ECM2414: Software Development.**  
140hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Yulei Wu
- Spring 2019 **ECM2423: Artificial Intelligence and Applications.**  
60hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Alberto Moraglio
- Autumn 2018 **ECM3428: Algorithms that Changed the World.**  
60hrs workshop for year 3 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Chunbo Luo
- Spring 2018 **ECM2427 Outside The Box: Computer Science Research and Applications.**  
90hrs workshop for year 2 students, Department of Computer Science, University of Exeter  
Instructor: Dr. Chunbo Luo
- Sep 2011 – Jan 2012 **Formal Methods.**  
School of Reliability and Systems Engineering, Beihang University  
Instructor: Dr. Guoqi Li

## Academic Teaching Qualification

- Autumn 2018 **Learning and Teaching in High Education Programme (Stage 1 & 2).**  
*Associate Fellowship for UKPSF, Recognised by Advance Higher Education (HE)*

## Skills

**Programming Skills**, Java, Python, C++, HTML, Prolog.

**Platforms and tools**, Docker, JUnit, git and GitHub, UML, MATLAB, Simulink, Game theoretical model.

**Techniques**, Mathematical reasoning and modelling, data analysis.

## Language

**Chinese (Mandarin)**, Native. **English** Fluent.

## Honours

- 2017 – 2021 International Excellence Scholarship (**4 years**), University of Exeter.
- 2014 – 2015 First-class Scholarship for PhD study, School of Transportation Science and Engineering, Beihang University.
- Oct. 2012 Distinction Award, Graduate School of Beihang University.
- Sep. 2012 Excellent Graduate Award, Graduate School of Beihang University.
- Oct. 2012 Outstanding Session Chair Award, Graduate School of Beihang University.
- 2011 – 2014 First-class Scholarship (**3 years**), School of Systems and Engineering, Beihang University.
- 2007–2010 First-class Scholarship (**3 years**), Jiangsu University.

## Mentoring Experience

- 2021 **Rongsheng Ye**, Year 2 master student at North China University of Technology.
- 2021 **Xiao Liu**, Year 3 master student at North China University of Technology.
- 2021 **Yunfeng Wang**, Year 3 master student at North China University of Technology.
- 2020 **Hui Deng**, master student graduated with distinction award, currently researcher at Datang Gohigh Data Networks Technology Co., Ltd., Beijing, China.

## Academic Service (Reviewer)

- 2021 Transactions on Network Science and Engineering.

- 2021 Future Generation Computer Systems.
- 2021 Journal of Parallel and Distributed Computing.
- 2021 IEEE Transactions on Cloud Computing.
- 2019 – 2021 IEEE Transactions on Network and Service Management.
- 2021 IEEE Transactions on Network Science and Engineering.
- 2021 IEEE Internet of Things Journal.
- 2021 Journal of Mobile and Wireless Networks.
- 2021 Sustainable Cities and Society.
- 2020 IEEE ISPA/BDCLOUD/SocialCom/SustainCom and IUCC.
- 2020 Blockchain'20.
- 2019 IEEE ISPA/BDCLOUD/SocialCom/SustainCom and IUCC.
- 2019 IEEE Industrial Electronics Society, INDIN19, Multimedia Tools and Applications, Journal.
- 2019 Dependability in Sensor, Cloud, and Big Data Systems and Applications (DependSys).
- 2018 Journal of Risk and Reliability.
- 2017 Mobile and Wireless Networking.
- 2017 IEEE International Conference on Communications.

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## Academic Service (Program Committee)

- 20 – 22 Dec **Web and System Management Chair**, London/Exeter, U.K.
  - 2021 ○ The 11th International Conference on Smart Computing, Networking and Services (SmartCNS-2021)
  - The 20th International Conference on Ubiquitous Computing and Communications (IUCC-2021)
  - The 20th International Conference on Computer and Information Technology (CIT-2021)
  - The 4th International Conference on Data Science and Computational Intelligence (DSCI-2021)
- 17 – 19 Dec **Local Arrangement Chair**, Exeter, U.K.
  - 2020 ○ The 13th IEEE International symposium on Social Computing and Networking (SocialCom-2020), Exeter, U.K.
  - The 18th IEEE International symposium on Parallel and Distributed Processing with Applications (ISPA-2020)
  - The 10th IEEE International Conference on Big Data and Cloud Computing (BDCloud-2020)
  - The 10th IEEE International Conference on Sustainable Computing and Communications (SustainCom-2020)
  - The 19th International conference on Ubiquitous Computing and Communications
- Jun. 2018 **Session Chair**, Exeter, U.K.
  - The 20th IEEE International Conference on High Performance Computing and Communications (HPSS-2018)
- 4 – 5 Sep **Session Chair**, Exeter, U.K.
  - 2018 ○ The 9th EAI International Conference on Big Data Technologies and Applications (BDTA)
- Dec 2016 **Session Chair**, Dunedin, New Zealand.
  - The 26th International Telecommunication Networks and Applications Conference (ITNAC), University of Otago

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## References

Supervisors and collaborators who have written references for me.

**Dr. Yulei Wu**, - Senior Lecturer, University of Exeter, U.K.

**Dr. Chunbo Luo**, - Senior Lecturer, University of Exeter, U.K.

**Prof. Geyong Min**, -Professor, University of Exeter, U.K.