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RESEARCH INTERESTS

Hierarchical Bayesian Models, Survival Time Prediction, Probabilistic Relational Models, Heuristic Algorithm, Safety and Reliability, Decision Support Under Uncertainty.

EDUCATION

- 2015 - Present **Queen Mary University of London, UK**
Ph.D. in Computer Science
- Thesis: Using Bayesian Networks and Complex Data to Optimize Infrastructure Maintenance in Railways
 - Supervisors: Dr. William Marsh, Prof. Norman Fenton, Prof. Martin Neil
- 2013 - 2014 **The University of Hong Kong, HK**
M.Sc. in Industrial Engineering and Logistic Management
- Thesis: Colour Petri Net – based Modelling for Integrated Process Planning and Scheduling (obtained highest grade among the department)
 - Supervisor: Dr. Tak Nam, Wong
- 2009 - 2013 **Jinan University, China**
B.Sc. in Electronic Commerce
- Thesis: Tourism Supply Chain Collaborative Demand Forecasting Model based on Colour Petri Net (awarded for the best undergraduate thesis of Jinan University)
 - Supervisor: Dr. Hua, Bai

PUBLICATIONS

- [1] **Haoyuan Zhang**, D. William R. Marsh, 2018. Grouping to Learn: Hierarchical Bayesian Modelling for Personalised Multi-State Deterioration Prediction (*In preparation*).

- [2] **Haoyuan Zhang**, D. William R. Marsh, 2018. Practical Maintenance Decision Support: Bayesian-based Models for Condition Prediction and Maintenance Intervention (*In preparation*).
- [3] **Haoyuan Zhang**, D. William R. Marsh, 2018. Towards A Model-Based Asset Deterioration Framework Represented by Probabilistic Relational Models. *European Safety and Reliability Conference 2018 (ESREL 2018)*.
- [4] **Haoyuan Zhang**, Kaijian Li, Tak Nam Wong, Luping Zhang and Asheem Shrestha, 2018. A Colored Petri Net Approach to Aid Integrate Process Planning and Scheduling Optimized by Hybrid Genetic Algorithm and Simulated Annealing. *Expert Systems with Application (Submitted)*.
- [5] **Haoyuan Zhang**, D. William R. Marsh, 2018. Generic Bayesian Network Models for Making Maintenance Decisions from Available Data and Expert Knowledge. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*, 232(5), pp.505-523.
- [6] Hua Bai, **Haoyuan Zhang**, 2017. CPN Based Modelling of Tourism Demand Forecasting. *International Journal of Business and Management*, 12(1), pp.28-35.
- [7] **Haoyuan Zhang**, D. William R. Marsh, 2016. Bayesian Network Models for Making Maintenance Decisions from Data and Expert Judgment. *European Safety and Reliability Conference 2016 (ESREL 2016)*, pp.1056-1063.
- [8] **Haoyuan Zhang**, Hua Bai, 2016. Simulation of Tourism Supply Chain Collaborative Demand Forecast. *International Conference on Applied Social Science Research (ICASSR 2015)*, pp.659-662.

ACADEMIC EXPERIENCE

- 2018 - 2018 **Participant**
 - Alan Turing Institute Data Study Group, Predicting Speech and Language Recovery Post-Stroke (PLORAS) team
- 2016 - 2018 **Teaching Assistant**
 - ECS647U - Bayesian Decision and Risk Analysis, ECS650/ECS789 - Database Systems, ECS401U - Procedural Programming (Java)
- 2015 - 2017 **Participant**
 - Rail Research UK Association (RRUKA) Annual Conference 2015, 2016, 2017
- 2016 - 2017 **Demonstrator**
 - EBU6606 - Product Development, EBU6402 - Enterprise Management

- 2016 **Invited Participant**
- Workshop: The nature of questions arising in court that can be addressed via probability and statistical methods (FOSW01) by Isaac Newton Institute, University of Cambridge

- 2010 - 2013 **Teaching Assistant**
- Operations Research, Logistics Management, Supply Chain Management

OTHER ACTIVITIES

- 2016 - 2018 **Ph.D. Research Committee Representative**
- Represent Risk and Information Management Group of EECS, QMUL

- 2014 - 2015 **Manager Trainee, Ligu Steel Group (HK) Limited**
- Worked on commodity shipping, trading and financing

CODING EXPERIENCE

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| Java | Bayesian network modelling, transfer learning and inference, Optimisation algorithms |
| R | Feature selection, cluster analysis, bootstrapping, Bayesian modelling and general data analysis |
| Scala | Probabilistic programming using Figaro |