Dr. Siyuan Ji

Contact Information

Address
22 Barnsdale Close, Loughborough, UK
LE11 5AN

Mobile
+44 - (0)7514282297

E-Mail
s.ji@lboro.ac.uk

Reseach Interest

Systems and Software Engineering
- **System of systems architecture and engineering**
- **Systems design philosophy, methods and algorithms**
- **Reliability modeling and engineering for safety critical systems**
- **Product line automation and optimisation**

Vehicle Engineering
- **Vehicle dynamics control**
- **Internal combustion engine calibration**
- **Vehicle emissions control**
- **Vehicle electronics architecture**

Education

Academic

- **PH.D.** (February 2015)
  Location: The University of Nottingham, Nottingham, UK
  Supervisor: Prof. Igor. Lesanovsky
  Co-Supervisor: Prof. Juan. P. Garrahan
  Scholarship: Fully funded by the school

- **M.Sci.** (Master of Science in Physics) (July 2010)
  Location: The University of Nottingham, Nottingham, UK
  Scholarship: International Student Scholarship
  Degree: First-class honours

Affiliation

- **Associate Fellow of the Higher Education Academy**
- **Member, Institution of Engineering and Technology** (IET)
- **Member, Institution of Electrical and Electronics Enginers** (IEEE)
- **Member, Object Management Group** (OMG)
- **Member, International Council of Systems Engineering** (INCOSE)

Teaching Experience

- **Teaching Assistant** (January 2015 - Present)
  Location: Wolfson School of Mechanical, Electrical & Manufacturing Engineering (formerly School of EESE), Loughborough University, U.K.
  MSc level Modules: Systems Architecture; Systems Design; Systems Verification and Validation
  Main Role: Contribute to curriculum design, lecture design and delivering, case study design and supervision, and marking

- **Demonstrator** (September 2010 - July 2013)
  Location: The University of Nottingham, Nottingham, UK
  Main Role: Demonstrating in first year undergraduates' laboratory and marking laboratory notes and reports

PhD Supervision

- **Rosmira Roslan** (2015 - Present)
  Role: Co-supervisor
  Research Topic: Formal methods for analysis and discovery of behavioural failures states

Research Experience

- **Research Associate** (January 2015 - Present)
  Location: Wolfson School of Mechanical, Electrical & Manufacturing Engineering (formerly School of EESE), Loughborough University, U.K.
  Main Roles: lead researcher on several projects on topics of vehicle engineering, systems engineering and software engineering. Currently collaborating with JLR to develop the next generation electronic vehicle architecture that will revolutionise the conventional CAN/LIN network.

- **Research Assistant** (October 2014 - December 2014)
  Location: School of Physics and Astronomy, The University of Nottingham, Nottingham, UK
  Direction: Kinetic Monte-Carlo Methods

Patent

C. Dickerson, **S. Ji**, and D. Battersby with Jaguar Land Rover
"Calibration system and method"
U.K. patent publication number GB2555617, 9th May 2018
This joint patent details a novel algorithmic approach to system calibration. The primary application of the patent is on diesel engines calibration. The method is generically applicable to other calibration systems on a vehicle, as well as systems beyond the automotive domain.

Software Standard

S. Ji (Lead technical author), M. Li, Y. Bernard, et. al.
"UPR: UML Profile for ROSETTA"
Adopted by the Object Management Group on 22nd June 2018
This is a two-year effort international software specification jointly among Loughborough University, Airbus, National Institute of Standards and Technology, ZTI Systems, and IBM. The specification facilitates the modelling and analysis of constraint-driven design problems to achieve architecture optimisation and cross-domain design trade-off and integration.

Reseach Proposal

- **Constraint Driven Design Engineering Environment, CD2E2, £54,234.00**
  Funding Body: EPSRC Impact Acceleration Account, Loughborough University Enterprise Group

Conference Organized

- **Quantum Correlations Students workshop (QUACS)** (1 July - 3 July 2012)
  Location: University of Nottingham, Nottingham, U.K.