

BCS-FACS Evening Seminar

Joint event with the London Mathematical Society

Thursday 21 November 2019 6:00 pm



Professor Marta Kwiatkowska
(University of Oxford)

When to Trust a Self-Driving Car...

Computing devices support us in almost all everyday tasks, from mobile phones and online banking to wearable and implantable medical devices. We are now experimenting with self-driving cars and robots. Since embedded software at the heart of these devices must behave correctly in presence of uncertainty, probabilistic verification techniques have been developed to guarantee their safety, reliability and resource efficiency. Using illustrative examples, this lecture will give an overview of the role that probabilistic modelling and verification can play in a variety of applications, including security, medical devices, self-driving cars and DNA computing. It will also describe recent developments towards model synthesis, which aims to build these systems so that they are correct by construction. Finally, it will explore the problems of ensuring that systems that rely on learning will behave correctly, both in situations that they have seen in training, and in situations that they haven't.

Venue: London Mathematical Society, De Morgan House, 57-58 Russell Square, London WC1B 4HS.

Refreshments will be available from 5.30pm.

The seminar is free of charge. If you would like to attend, please email lmscomputerscience@lms.ac.uk.