Dr Maria Chli

Reader, Computer Science at Aston University
Birmingham, , GB

Dr Chli's work is in the area of artificial intelligence, particularly in applying machine learning techniques.

Biography

Dr Chli has been leading research in artificial intelligence (intelligent agents and multi-agent systems) for over 16 years, consistently focussing on real-world problems and yielding high-quality solutions with tangible impact. Her core research in modelling real-life complex systems and optimising them through coupling multi-agent systems techniques with machine and deep learning, has received multiple awards and has attracted substantial attention from the industry, government, and the media. For example, her work on trust and reputation in multi-agent interaction settings using Hidden Markov Models is the state of the art in multi-agent trust models. Similarly, her team's work on automated power brokering resulted in the first reinforcement learning broker agent, AstonTAC. This success has inspired more current work on deep reinforcement learning architectures for real-time control (e.g., traffic signal control) and transfer learning which have produced outstanding results in their respective areas. Her work on autonomous traffic control has attracted the attention of regional Departments for Transport both in the UK and abroad, which are eager to start trials of our algorithms in the West Midlands area. This work has also been widely covered by the media (BBC News, Deutsche Well and multiple other outlets). Dr Chli's £2.4m grant track record includes funding from a diverse set of funders such as Innovate UK, European Commission, The Royal Society, AXA and the Industry.

Areas of Expertise

Agent-Based Computing, Deep Learning Architectures, Machine Learning Techniques, Probabilistic Modeling, Smart Cities

Affiliations

ALICE Research Group, Systems Analytics Research Institute, SARI.

Education

Aston University
Certificate Learning and Teaching in Higher Education

Imperial College London
PhD Intelligent Systems

Imperial College London
MEng Computing

Accomplishments

Founder
Founder of multi-award-winning CS Industry Club scheme.

REF 2021
Published two 4* and at least eight 3* papers.

Funding
Received £2.4m of research funding. As industrial liaison, doubled department's industrial research funding (£6.3m in six years)
