

Bristol Airport

Adarga

Oxford
e-Research

Human-Machine
Decision
Support Systems

Visual Data
Analytics for
'story telling'

Montvieux

Claircity

Visualisation of, and interaction with,
machine learning process
(model visualisation / interaction)

(Pro- / Inter-)
Active Learning

Hartpury

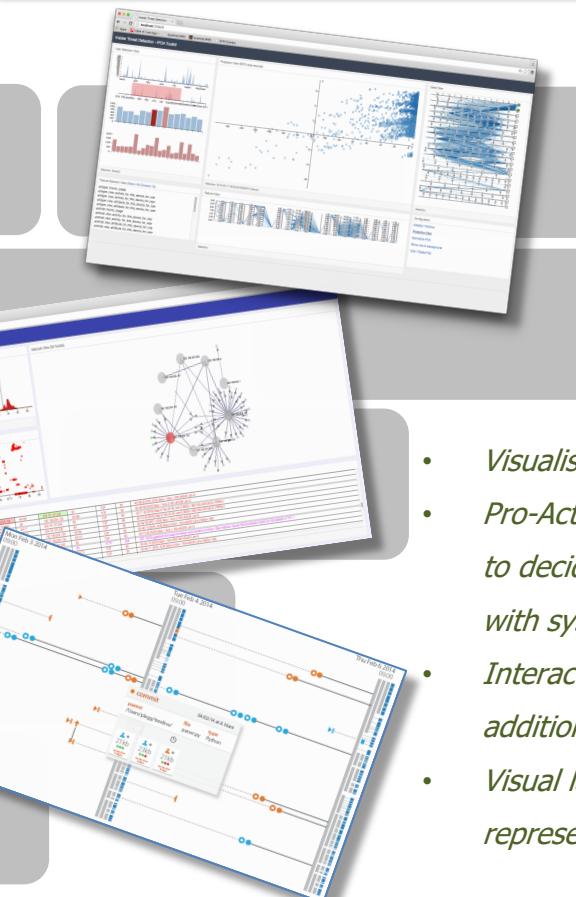
Data
Visualisation

Machine
Learning

Visual
Analytics

Cyber
Security

Cyber Security
Oxford



Current Ideas -> Activities -> Papers

- *Active Human-Machine Learning supported by Visual Analytics for Cyber-Physical Security*
- *Visualisation for Explaining Deep Learning models (e.g., RNNs, LSTMs, CNNs).*
- *Pro-Active learning – can we assess user consistency, confidence, and correctness to decide whether to incorporate new labels? (e.g. could also prevent tampering with systems, promote trust in system operation)*
- *Interaction with machine learning applications (can user interactions provide additional learning features for how to handle particular scenarios?)*
- *Visual languages – how can we determine whether the most appropriate visual representation? (e.g. glyph visualisation, and also other areas of vis)*



My Publications

All | Conference or Workshop Item (5) | Book Section (2) | Article (12)

- Erola, A., Agrafiotis, I., Happa, J., Goldsmith, M., Creese, S. and Legg, P. (2017) [RicherPicture: Semi-automated cyber defence using context-aware data analytics](#). In: International Conference on Cyber Situational Awareness, Data Analytics and Assessment (CyberSA 2017), London, 19-20 June 2017. International Conference on Cyber Situational Awareness, Data Analytics and Assessment (CyberSA 2017); IEEE [In Press] Available from: <http://eprints.uwe.ac.uk/31554>
- Legg, P. (2017) [Human-machine decision support systems for insider threat detection](#). In: Palomares, Iván, Kalutarage, H. and Huang, Y., eds. (2017) Data Analytics and Decision Support for Cybersecurity: Trends, Methodologies and Applications. Springer. ISBN 9783319594385 [In Press] Available from: <http://eprints.uwe.ac.uk/31385>
- Legg, P. (2016) [Visual analytics for non-expert users in cyber situation awareness](#). International Journal on Cyber Situational Awareness, 1 (1). ISSN 2057-2182 Available from: <http://eprints.uwe.ac.uk/29865>
- Legg, P., Maguire, E., Walton, S. and Chen, M. (2016) [Glyph visualization – A fail-safe design scheme based on quasi-Hamming distances](#). IEEE Computer Graphics and Applications, 37 (2). pp. 31-41. ISSN 0272-1716 Available from: <http://eprints.uwe.ac.uk/28652>
- Legg, P. (2016) [Enhancing cyber situation awareness for non-expert users using visual analytics](#). In: International Conference On Cyber Situational Awareness, Data Analytics And Assessment (CyberSA 2016), London, UK, 13 - 14 June 2016. London, UK: IEEE/C-MRIC Available from: <http://eprints.uwe.ac.uk/28647>
- Legg, P. A. (2015) [Visualizing the insider threat: Challenges and tools for identifying malicious user activity](#). In: IEEE Symposium on Visualization for Cyber Security, Chicago, Illinois, USA, 26 October 2015. IEEE Symposium on Visualization for Cyber Security (VizSec) 2015: IEEE Available from: <http://eprints.uwe.ac.uk/27441>
- Legg, P. A., Maguire, E., Walton, S. and Chen, M. (2015) [Quasi-Hamming distances: An overarching concept for measuring glyph similarity](#). In: EGUK Computer Graphics and Visual Computing 2015, UCL, London, UK, 16-17 September

Collaborations

- [Bristol Airport](#)
- [DSTL](#)
- [Montvieux](#)
- [University of Oxford](#)

Research

- [Visual Data Analytics](#)
- [Cyber Security Analytics](#)
- [Active Machine Learning](#)
- [Data Visualisation](#)

Teaching

- [Security Data Analytics and Visualisation](#)
- [Security Management in Practice](#)
- [Object-Oriented Analysis Design and Programming](#)
- [Principles of Computing](#)

New search