Intellectual Property Analytics for Technology Strategic Decision Making

Big data is increasingly available in all areas of manufacturing and operations. In this research, we apply artificial intelligence technologies to analyze intellectual property data and complement human judgement for strategic decision making along the innovation technology development process.

Aims
To apply artificial intelligence technologies within the technology development process models to evaluate technology decisions

Progress
• Literature review completed, published a working paper on IPA
• Deep learning incorporation within the innovation process concept completed
• Three models with accuracy of 61%
• Expand the model to incorporate more features (future industrial engagement)
• Complete 2-3 case studies to evaluate the model in a firm environment (future industrial engagement)

Deliverables
• Machine learning applications in technology management with IP data
• Report on the model

Results
Summary
• It is possible to forecast the technological impact of a patented invention, using multiple patent indicators. An accuracy of 61.1% was achieved when predicting the number of citations within 4 years

Effectiveness of t-sne of clustering the word2vec models for language models

Published papers
• Aristodemou, L., & Tietze, F. A literature review on the state-of-the-art on intellectual property analytics. https://doi.org/10.17863/CAM.13928