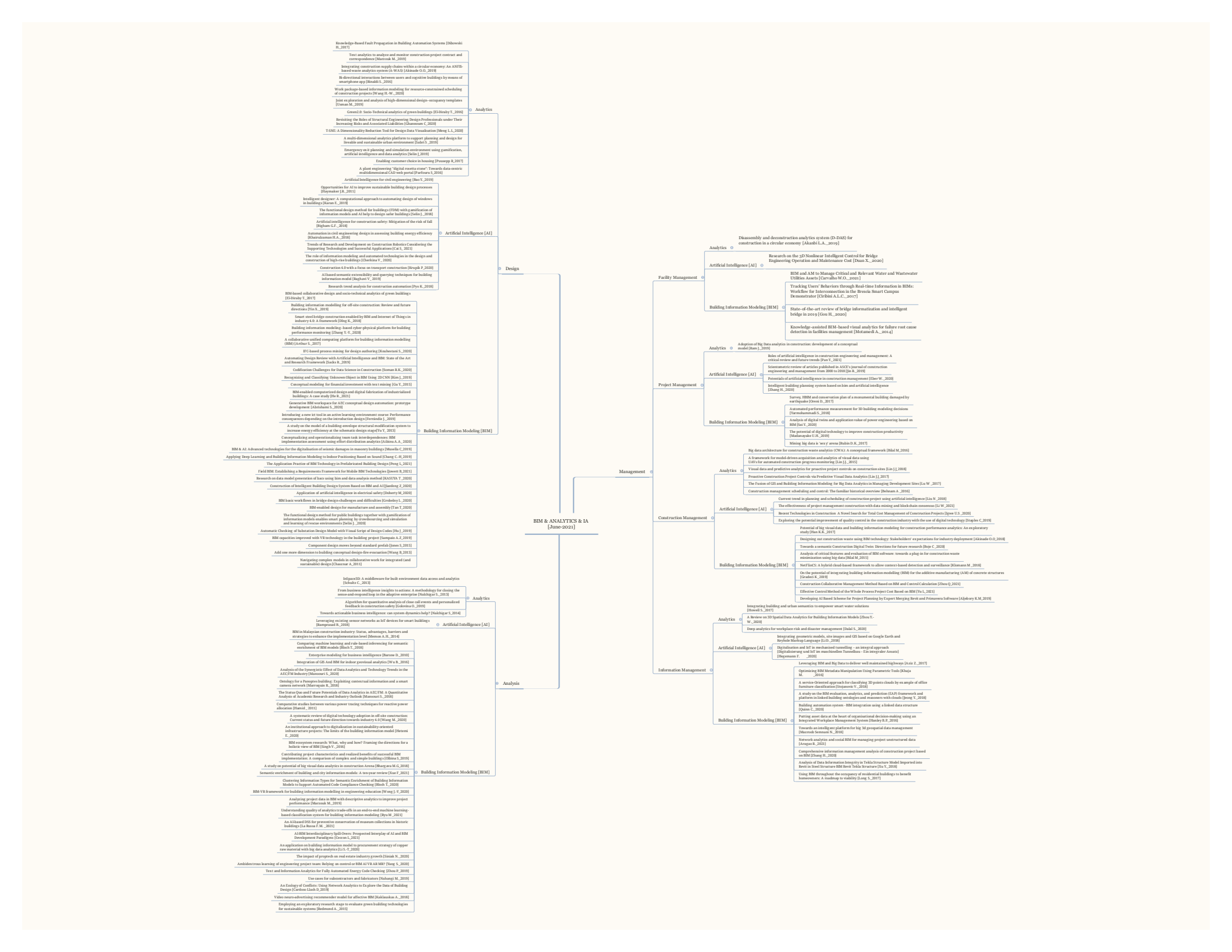
BIM & ANALYTICS & IA [June-2021]
Design
Analytics
Knowledge-Based Fault Propagation in Building Automation Systems [Dibowski H._2017]
Text analytics to analyze and monitor construction project contract and correspondence [Marzouk M._2019]
Integrating construction supply chains within a circular economy: An ANFIS-based waste analytics system (A-WAS) [Akinade O.O._2019]
Bi-directional interactions between users and cognitive buildings by means of smartphone app [Rinaldi S._2016]
Work package-based information modeling for resource-constrained scheduling of construction projects [W ang H.-W._2020]
Joint exploration and analysis of high-dimensional design–occupancy templates [Usman M._2019]
Green2.0: Socio-Technical analytics of green buildings [El-Diraby T._2016]
Revisiting the Roles of Structural Engineering Design Professionals under Their Increasing Risks and Associated Liabilities [Ghannoum C._2020]
T-SNE: A Dimensionality Reduction Tool for Design Data Visualisation [Meng L.-I._2020]
A multi-dimensional analytics platform to support planning and design for liveable and sustainable urban environment [Sabri S._2019]
Emergency ex it planning and simulation environment using gamification, artificial intelligence and data analytics [Selim J._2015]
Enabling customer choice in housing [Pussepp R_2017]
A plant engineering "digital rosetta stone": Towards data-centric multidimensional CAD web portal [Parfouru S_2016]
Artificial Intelligence [AI]
Artificial Intelligence for civil engineering [Bao Y._2019]
Opportunities for AI to improve sustainable building design processes [Haymaker J.R._2011]
Intelligent designer: A computational approach to automating design of windows in buildings [Karan E._2019]
The functional design method for buildings (FDM) with g amification of information models and AI help to design safer buildings [Selin J._2018]
Artificial intelligence for construction safety: Mitigation of the risk of fall [Bigham G.F._2018]
Automation in civil engineering design in assessing building energy efficiency [Khairulzaman H.A._2018]
Trends of Research and Development on Construction Robotics Considering the Supporting Technologies and Successful Applications [Cai S._2021]
The role of information modeling and automated technologies in the design and construction of high-rise buildings [Cherkina V._2020]
Construction 4.0 with a focus on transport construction [Krzupk P_2020]
AI based semantic extensibility and querying techniques for building information model [Raghani V._2019]
Research trend analysis for construction automation [Pyo K._2018]
Building Information Modeling [BIM]
BIM-based collaborative design and socio-technical analytics of green buildings [El-Diraby T._2017]
Building information modelling for off-site construction: Review and future directions [Yin X._2019]
Smart steel bridge construction enabled by BIM and Internet of Thing s in industry 4.0: A framework [Ding K._2018]
Building information modeling–based cyber-physical platform for building performance monitoring [Zhang Y.-Y._2020]
A collaborative unified computing platform for building information modelling (BIM) [Arthur S._2017]
IFC-based process mining for design authoring [Koubaetari S._2020]
Automating Design Review with Artificial Intelligence and BIM: State of the Art and Research Framework [Sacks R._2019]
Codification Challenges for Data Science in Construction [Soman R.K._2020]
Recognizing and Classifying Unknown Object in BIM Using 2D CNN [Kim J._2019]
Conceptual modeling for financial investment with text mining [Gu Y._2015]
BIM-enabled computerized design and digital fabrication of industrialized buildings: A case study [He R._2021]
Generative BIM workspace for AEC conceptual design automation: prototype development [Abrishami S._2020]
Introducing a new ict tool in an active learning environment course: Performance consequences depending on the introduction design [Fernández J._2019]
A study on the model of a building-envelope structural modification system to increase energy efficiency at the schematic design stage[Yu Y._2015]
Conceptualizing and operationalizing team task interdependences: BIM implementation assessment using effort distribution analytics [Albino A.A._2020]
BIM & AI: Advanced technologies for the digitalisation of seismic damages in masonry buildings [Masella C_2019]
Applying Deep Learning and Building Information Modeling to Indoor Positioning Based on Sound [Chang C.-H_2019]
The Application Practice of BIM Technology in Prefabricated Building Design [Peng L._2021]
Field BIM: Establishing a Requirements Framework for Mobile BIM Technologies [Jowett B_2021]
Research on data model generation of hacs using him and data analysis method [KASUYA T._2020]
Construction of Intelligent Building Design System Based on BIM and AI[Jianfeng Z_2020]
Application of artificial intelligence in electrical safety [Doherty M_2020]
BIM basic workflows in bridge design-challenges and difficulties [Grobelny L._2020]
BIM-enabled design for manufacture and assembly [Tan T_2020]
The functional design method for public buildings together with gamification of information models enables smart planning by crowdsourcing and simulation and learning of rescue environments [Selin J._2020]
Automatic Checking of Substation Design Model with Visual Script of Design Codes [Hu J._2019]
BIM capacities improved with VR technology in the building project [Sampaio A.Z._2019]
Component design moves beyond standard prefab [Jones S_2015]
Add one more dimension to building conceptual design-fire evacuation [Wang B_2013]
Navigating complex models in collaborative work for integrated (and sustainable) design [Chanznar A_2011]
Analysis
Analytics
InSpaceUD: A middleware for built environment data access and analytics [Schultz C._2013]
From business intelligence insights to actions: A methodology for closing the sense-and-respond loop in the adaptive enterprise [Nakhjavi S._2013]
Algorithm for quantitative analysis of close call events and personalized feedback in construction safety [Golovina O._2019]
Towards actionable business intelligence: can system dynamics help? [Nakhjavi S._2014]
Artificial Intelligence [AI]
Leveraging existing sensor networks as IoT devices for smart building s [Ramprasad B._2018]
Building Information Modeling [BIM]
BIM in Malaysian construction industry: Status, advantages, barriers and strategies to enhance the implementation level [Memon A.H._2014]
Comparing machine learning and rule-based inferencing for semantic enrichment of BIM models [Bloch T._2018]
Enterprise modeling for business intelligence [Barone D._2010]
Integration of GIS And BIM for indoor geovisual analytics [Wu B._2016]
Analysis of the Synergistic Effect of Data Analytics and Technology Trends in the AEC/FM Industry [Mansouri S._2020]
Ontology for a Panoptes building: Exploiting contextual information and a smart camera network [Marroquin R._2016]
The Status Quo and Future Potentials of Data Analytics in AEC/FM: A Quantitative Analysis of Academic Research and Industry Outlook [Mansouri S._2018]
Comparative studies between various power tracing techniques for reactive power allocation [Hamid _ 2011]
A systematic review of digital technology adoption in off-site construction: Current status and future direction towards industry 4.0 [Wang M._2020]
An institutional approach to digitalization in sustainability-oriented infrastructure projects: The limits of the building information model [Hetemi E._2020]
BIM ecosystem research: W hat, why and how? Framing the directions for a holistic view of BIM [Singh V._2016]
Contributing project characteristics and realized benefits of successful BIM implementation: A comparison of complex and simple building s [Olsina S_2019]
A study on potential of big visual data analytics in construction Arena [Bharg ava M.G_2018]
Semantic enrichment of building and city information models: A ten-year review [Xue F_2021]
Clustering Information Types for Semantic Enrichment of Building Information Models to Support Automated Code Compliance Checking [Bloch T._2020]
BIM-VR framework for building information modelling in engineering education [W ang J.-Y._2020]
Analyzing project data in BIM with descriptive analytics to improve project performance [Marzouk M._2019]
Understanding quality of analytics trade-offs in an end-to-end machine learning-based classification system for building information modeling [Ayo M._2021]
An AI-based DSS for preventive conservation of museum collections in historic buildings [La Russa F.M._2021]
AI-BIM Interdisciplinary Spill-Overs: Prospected Interplay of AI and BIM Development Paradigms [Cocron L_2021]
An application on building information model to procurement strategy of copper raw material with big data analytics [Li S.-T_2020]
The impact of proptech on real estate industry growth [Siniak N._2020]
Ambidextrous learning of engineering project team: Relying on control or BIM-AI VR AR MR? [Yang S._2020]
Text and Information Analytics for Fully Automated Energy Code Checking [Zhou P._2019]
Use cases for subcontractors and fabricators [Nahangi M._2019]
An Ecology of Conflicts: Using Network Analytics to Ex plore the Data of Building Design [Cardoso Llach D_2019]
Video neuro-advertising recommender model for affective BIM [Kakliauskas A._2018]
Employing an exploratory research stage to evaluate green building technologies for sustainable systems [Redmond A._2015]
Management
Facility Management
Analytics
Disassembly and deconstruction analytics system (D-DAS) for construction in a circular economy [Akanbi L.A._2019]
Artificial Intelligence [AI]
Research on the 3D Nonlinear Intelligent Control for Bridge Engineering Operation and Maintenance Cost [Duan X._2020]
Building Information Modeling [BIM]
BIM and AM to Manage Critical and Relevant Water and Wastewater Utilities Assets [Carvalho W.O._2021]
Tracking Users' Behaviors through Real-time Information in BIMs: Workflow for Interconnection in the Brescia Smart Campus Demonstrator [Ciribini A.L.C._2017]
State-of-the-art review of bridge informatization and intelligent bridge in 2019 [Gou H._2020]
Knowledge-assisted BIM-based visual analytics for failure root cause detection in facilities management [Motamedi A._2014]
Project Management
Analytics
A adoption of Big Data analytics in construction: development of a conceptual model [Ram J._2019]
Artificial Intelligence [AI]
Roles of artificial intelligence in construction engineering and management: A critical review and future trends [Pan Y._2021]
Scientometric review of articles published in ASCE's journal of construction engineering and management from 2000 to 2018 [Jin R._2019]
Potentials of artificial intelligence in construction management [Eber W._2020]
Intelligent building planning system based on bim and artificial intelligence [Zhang H._2020]
Building Information Modeling [BIM]
Survey, HBIM and conservation plan of a monumental building damaged by earthquake [Oresi D._2017]
Automated performance measurement for 3D building modeling decisions [Yarmohammadi S._2016]
Analysis of digital twins and application value of power engineering based on BIM [Sui Y._2020]
The potential of digital technology to improve construction productivity [Madanayake U.H._2019]
Mining big data is 'sea y' arena [Rubin D.K._2017]
Construction Management
Analytics
Big data architecture for construction waste analytics (CWA): A conceptual framework [Bilal M._2016]
A framework for model-driven acquisition and analytics of visual data using UAVs for automated construction progress monitoring [Lin J.J._2015]
Visual data and predictive analytics for proactive project controls on construction sites [Lin J.J_2018]
Proactive Construction Project Controls via Predictive Visual Data Analytics [Lin J.J_2017]
The Fusion of GIS and Building Information Modeling for Big Data Analytics in Managing Development Sites [Lu W _2017]
Construction management scheduling and control: The familiar historical overview [Behnam A _2016]
Artificial Intelligence [AI]
Current trend in planning and scheduling of construction project using artificial intelligence [Liu N _2018]
The effectiveness of project management construction with data mining and blockchain consensus [Li W _2021]
Recent Technologies in Construction: A Novel Search for Total Cost Management of Construction Projects [Igwe U.S _2020]
Exploring the potential improvement of quality control in the construction industry with the use of digital technology [Staples C_2019]
Building Information Modeling [BIM]
Potential of big visual data and building information modeling for construction performance analytics: An exploratory study [Han K.K._2017]
Designing out construction waste using BIM technology: Stakeholders' expectations for industry deployment [Akinade O.O_2018]
Towards a semantic Construction Digital Twin: Directions for future research [Boje C._2020]
Analysis of critical features and evaluation of BIM software: towards a plug-in for construction waste minimization using big data [Bilal M._2015]
NetFlinCS: A hybrid cloud-based framework to allow context-based detection and surveillance [Klomann M _2018]
On the potential of integrating building information modelling (BIM) for the additive manufacturing (AM) of concrete structures [Gradeci K._2019]
Construction Collaborative Management Method Based on BIM and Control Calculation [Zhou Q_2021]
Effective Control Method of the Whole Process Project Cost Based on BIM [Yu L._2021]
Developing AI Based Scheme for Project Planning by Expert Merging Revit and Primavera Software [Aljebory K.M_2019]
Information Management
Analytics
Integrating building and urban semantics to empower smart water solutions [Howell S._2017]
A Review on 3D Spatial Data Analytics for Building Information Models [Zhou Y-W _2020]
Deep analytics for workplace risk and disaster management [Dalal S._2020]
Artificial Intelligence [AI]
Integrating geometric models, site images and GIS based on Google Earth and Keyhole Markup Language [Li D._2018]
Digitalisation and IoT in mechanised tunnelling – an integral approach [Digitalisierung und IoT im maschinellen Tunnelbau – Ein integraler Ansatz] [Hegemann F. _2020]
Building Information Modeling [BIM]
Leveraging BIM and Big Data to deliver well maintained highways [Aziz Z._2017]
Optimizing BIM Metadata Manipulation Using Parametric Tools [Khaja M. _2016]
A service-Oriented approach for classifying 3D points clouds by ex ample of office furniture classification [Stojanovic V._2018]
A study on the BIM evaluation, analytics, and prediction (EAP) framework and platform in linked building ontologies and reasoners with clouds [Jeong Y._2016]
Building automation system - BIM integration using a linked data structure [Quinn C._2020]
Putting asset data at the heart of organisational decision-making using an Integrated Workplace Management System [Hanley R.P_2016]
Towards an intelligent platform for big 3d geospatial data management [Marzouk-Semmani N._2018]
Network analytics and social BIM for managing project unstructured data [Aragao R_2021]
Comprehensive Information management analysis of construction project based on BIM [Zhang H._2020]
Analysis of Data Information Integrity in Tekla Structure Model Imported into Revit in Steel Structure BIM Revit Tekla Structure [Xu Y._2018]
Using BIM throughout the occupancy of residential buildings to benefit homeowners: A roadmap to viability [Long S._2017]