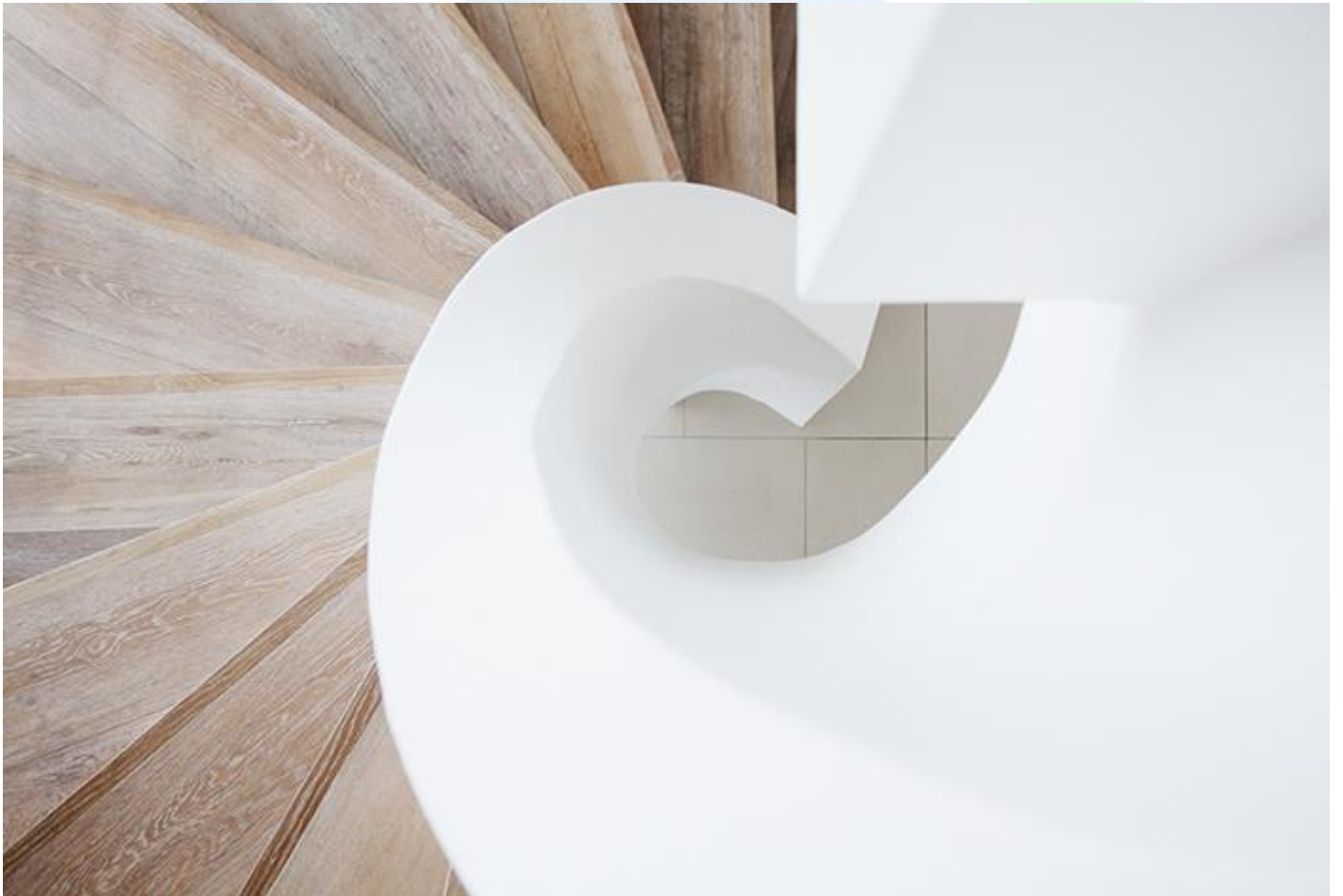


Machine Learning

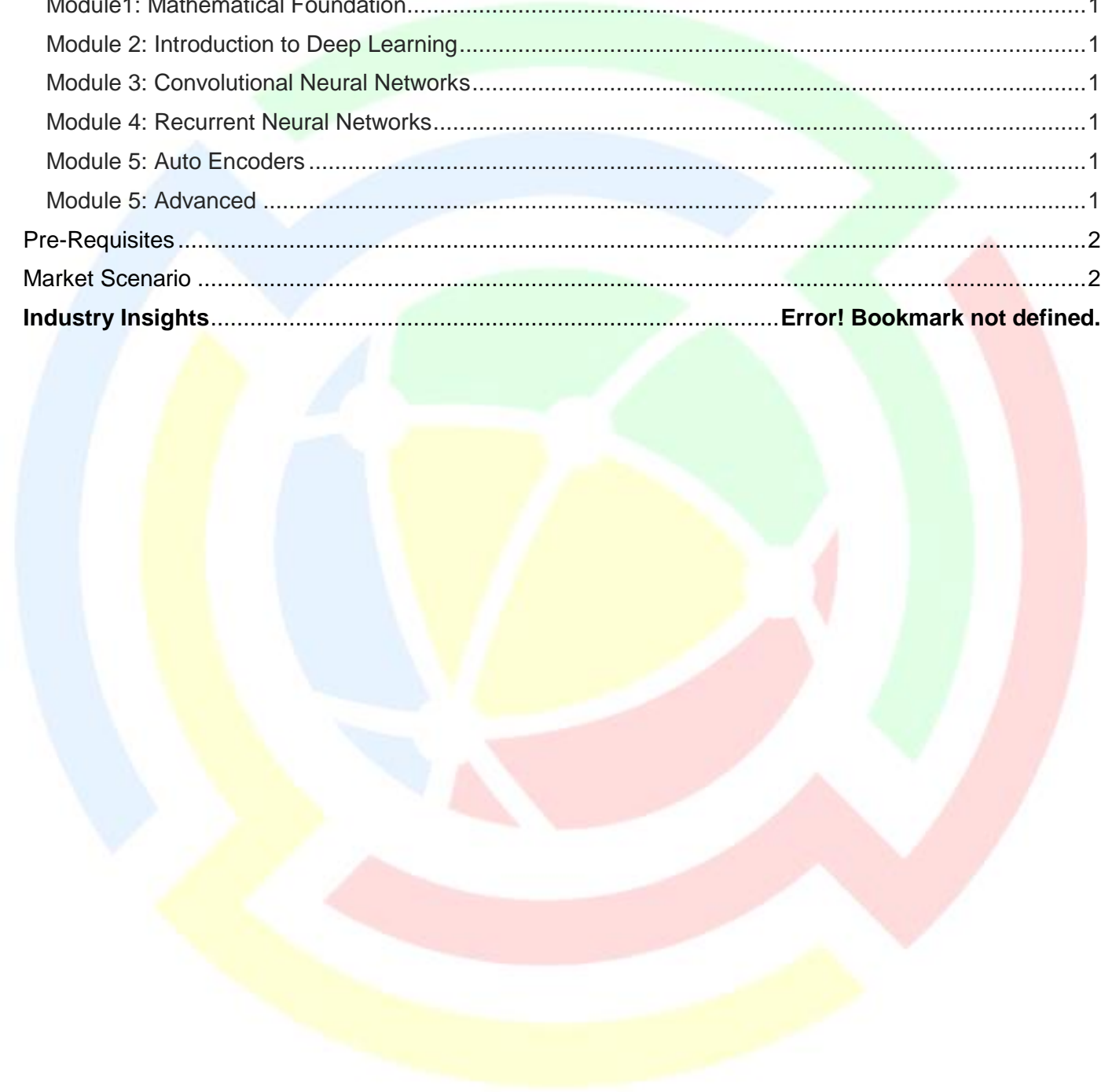


with Python/R

Digital Lync Academy

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Course Curriculum

Module 1: Lazy Learning

- K-Means Clustering

Module 2: Probabilistic Learning

- Naïve Bayes Theorem

Module 3: Association Rules

- Apriori Algorithm

Module 4: Introduction to Neural Networks

- Neural Networks and Back Propagation

Module 5: Support Vector Machines

- SVMs

Module 5: Decision & Ensemble Trees

- CHAID
- CART
- C5.0
- Random Forest

Module 6: Clustering

- K-Means
- Principal Component Analysis

Module 7: Model Optimization

- Re-sampling
- CrossValidation



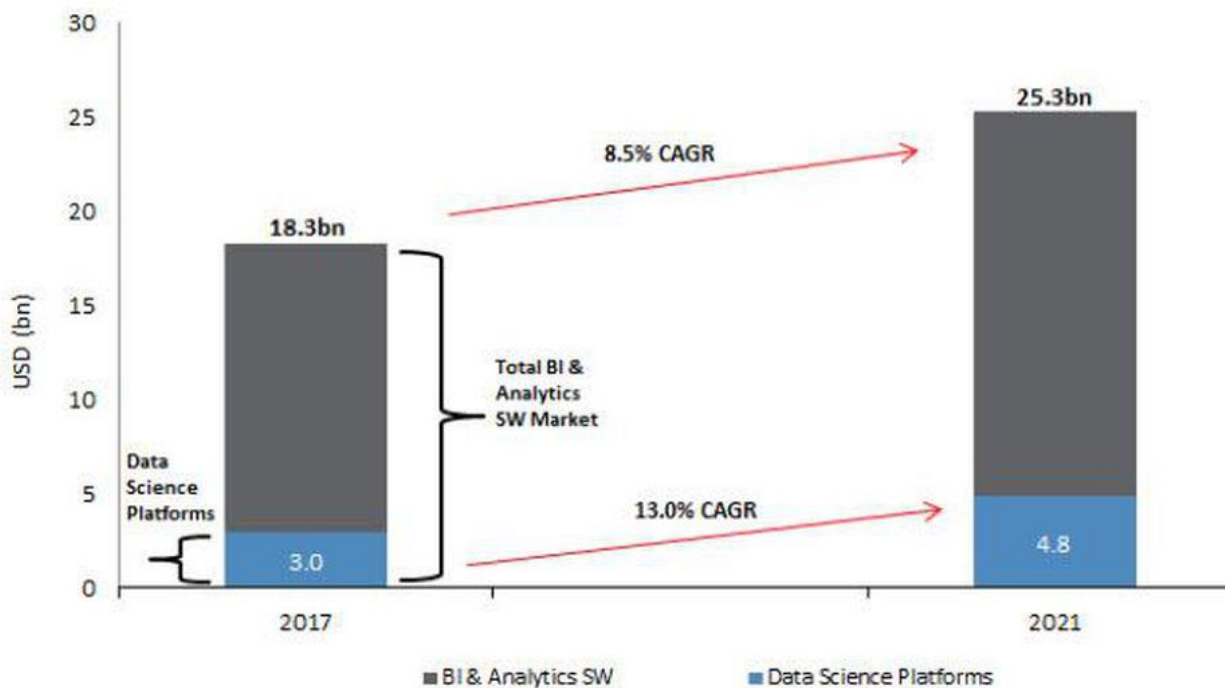
Pre-Requisites

- Python Complete

Market Scenario

- Machine learning patents grew at a 34% Compound Annual Growth Rate (CAGR) between 2013 and 2017, the third-fastest growing category of all patents granted.
- International Data Corporation (IDC) forecasts that spending on AI and ML will grow from \$12B in 2017 to \$57.6B by 2021.
- Deloitte Global predicts the number of machine learning pilots and implementations will double in 2018 compared to 2017, and double again by 2020.

Figure 29: Data Science Platforms are growing faster than overall BI & Analytics SW



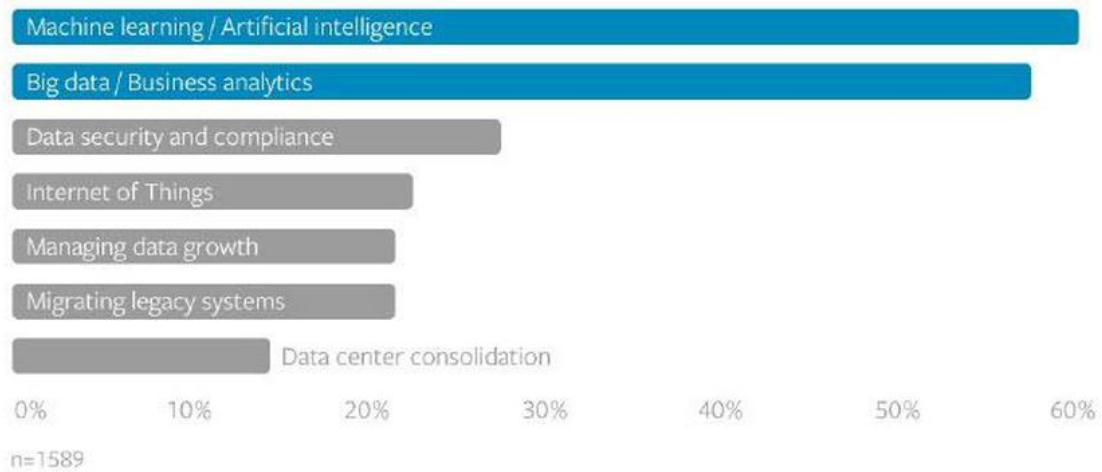
Source: Gartner.

Number 3 Machine Learning

5 Year Growth Rate: 34%

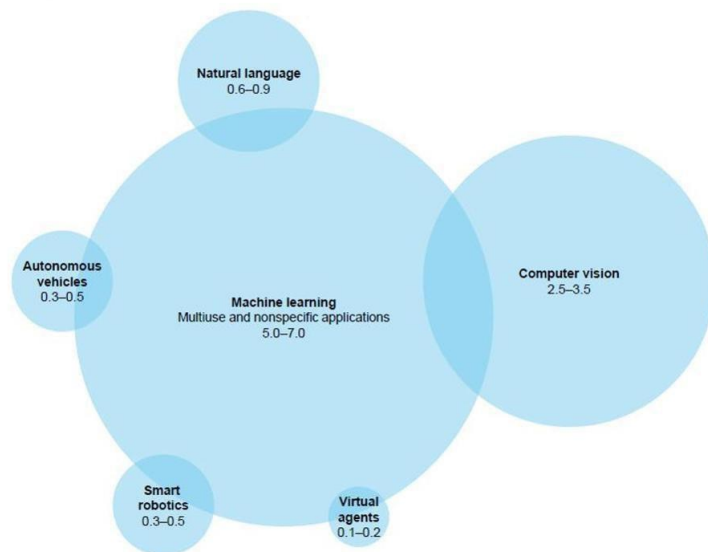
- Published patent applications for Patent Classification G06N "Computer Systems Based on Specific Computational Models" grew at a compound annual rate of 34% from 2013 to 2017.
- This includes machine learning and artificial neural networks.

Company	2017 published applications
IBM	654
Microsoft	139
Google	127
LinkedIn	70
Facebook	66
Intel	52
Fujitsu	49

Machine Learning and Artificial Intelligence Top Initiative**Top Data Initiatives for 2018**

Machine learning received the most investment, although boundaries between technologies are not clear-cut

External investment in AI-focused companies by technology category, 2016¹
\$ billion



¹ Estimates consist of annual VC investment in AI-focused companies, PE investment in AI-related companies, and M&A by corporations. Includes only disclosed data available in databases, and assumes that all registered deals were completed within the year of transaction.

SOURCE: Capital IQ, Pitchbook, Dealogic, McKinsey Global Institute analysis

Projects

- Handwriting Recognition
- Cancer prediction
- Sales Prediction

