



LEVEL 7 ASSESSMENT SPECIFICATION

Student name:	Chung <u>Chun Pong</u> James	Student ID number:	2123147
Programme:	MBA		
Module:	Human Resources Management		
Module code:	HKBM7007	Contribution to Overall Module Assessment (%):	50%
Lecturer:	Dr Leo Ho	Internal <u>Verifier</u> :	Dr Terence Li
Assignment Title:	Assignment 1	Word count (or equivalent):	Individual Presentation 15
Submission deadline:	Dec 5, 2021 - Oral Presentation Dec 5, 2021 - Submission of finalized PowerPoint slides	Return date of provisional marks & written feedback:	14 working days after submission of finalized PowerPoint slides
Submission method:	All written assessments, where practical and possible, must be submitted via <u>Tumitin</u> unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into <u>Tumitin</u> or it will match many similarities with other students' submissions.) Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 50%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Human Resources Management (HKBM7007)

How Machine Learning Change HRM

by James Chung
student ID: 2123147



Content

- Definition of Machine Learning
- Pros and Cons
- Application of Machine Learning on HRM
- Case Study: Amazon
- Findings from Machine Learning
- Recommendations



What is Machine Learning?

- Machine learning (ML) is a method to build analytical models automatically by analyzing of data
- It is a component of artificial intelligence which assume systems can learn and improve from data, making predictions or decisions and identify patterns without being explicitly programmed to do so



Advantages of Machine learning

1. Able to identify patterns and trends easily
2. Automation. Minimal or even no human intervention
3. Learn and improve continuously
4. Able to process enormous data with different dimensions and variety
5. High applicability



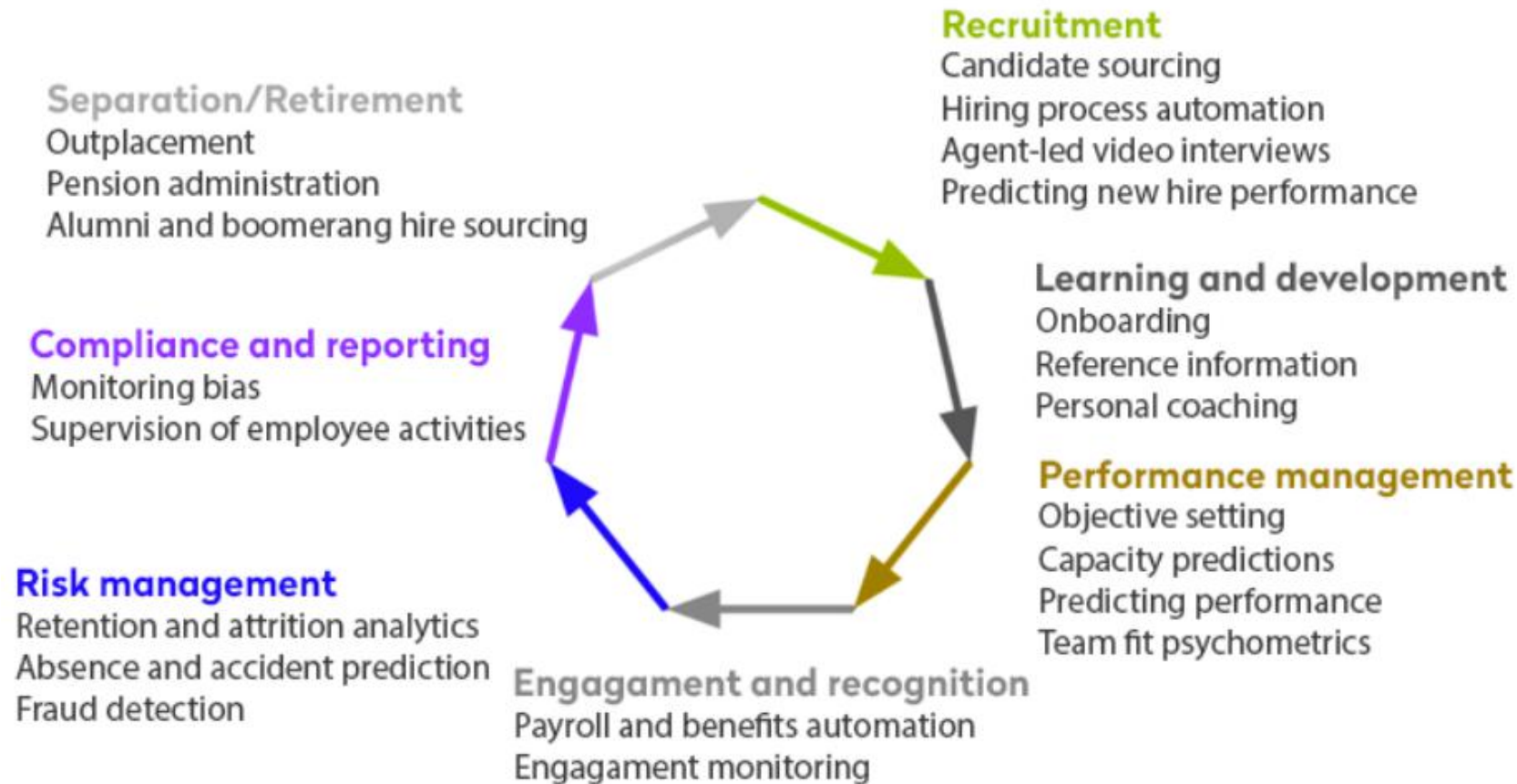
Disadvantages of Machine Learning

1. Massive demand for data
2. Resources and time consuming
3. Ability to interpret the result
4. Highly susceptible to errors



How to apply Machine Learning on HRM?

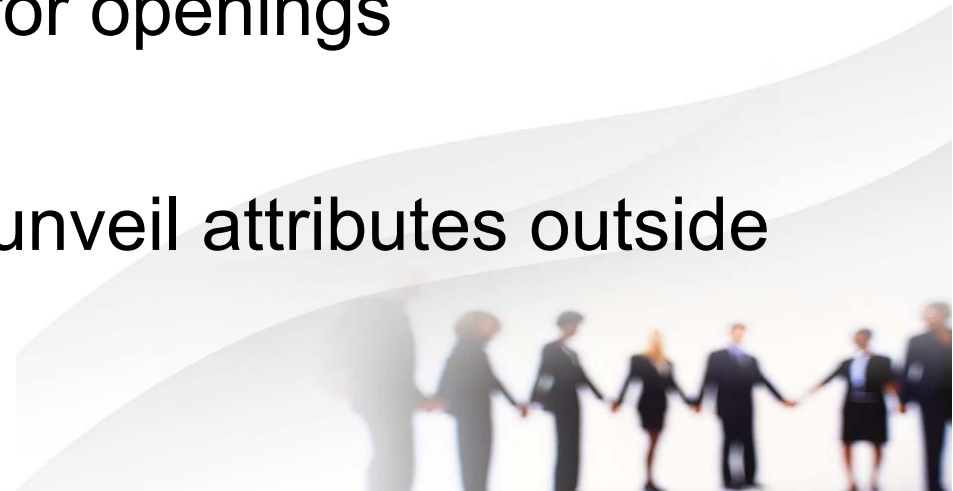
How is ML being used in HR & Recruitment



How to apply Machine Learning on HRM?

1. Recruitment

- Scan enormous amount of resumes to screen out most possible match candidates.
- Proactively search for right candidates for openings
- Analyse blog/social media profiles and unveil attributes outside the resume



How to apply Machine Learning on HRM?

2. Interviewing

- ML can analyze the interviewee's state of mind, determine if the candidate is honest with answers
- Interview is recorded for neural networks to analyze by criteria such as muscular contractions and voice tone



How to apply Machine Learning on HRM?

3. Attrition detection

- Identifying attrition risk calls for advanced pattern recognition in surveying an array of variables
- Process large amounts of unstructured data and identify emotional activity in comments and tease out prescriptive comments or actionable suggestions

Example: JPMorgan



Case Study: Amazon

Amazon



- Background

- Industry: E-Commerce, AI, Entertainment, Consumer electronics
- Market Cap: USD1.75Trillion
- Employee: 950,000 (US), 0.7% of nonfarm payroll workers in US
- Brand value: USD135.4B (No.4 in 2020 according to Forbes)



Case Study: Amazon

- Built programs to review resumes since 2014
- Leverage experience and technology in e-commerce to develop tool to give job candidates scores
- By 2015, realized candidates for software development and other technical positions were not rated by the system in a gender-neutral way
- Algorithm was developed by learning the patterns in resumes submitted for over 10 years. Most were submitted by men which reflected the tech industry is dominated by male



Case Study: Amazon

- System “learnt” that male candidates were preferable by itself. Resumes with key words “women’s” or candidates graduated from all women’s colleges would be downgraded or rated lower scores by the system
- Edited the programs to fix but still cannot ensure it would not discriminate candidates in other screening criteria
- Another issue is candidates who are unqualified were picked for all range of jobs.
- The program was finally dropped by Amazon who declined recruiters used the tool to evaluate candidates



Findings from the case study

- The technology of machine learning is not mature enough to make recruitment decision without any human intervention
- The algorithm generates recommendation or prediction purely base on the analysis and learning from data provided, ethical or moral considerations are absent
- Low variety of data set could lead to bias
- Past record or incident may not be ideal sources to derive predictions



Recommendations

- In addition to information on resume, use machine learning to analyze candidates' speech, facial expressions or other data to raise the variety of data to improve quality of recommendations
- Use machine learning mainly on repetitive and high volume chores in the process such as application or CV review. Blend with human judgement and intervention to balance different aspects in hiring decision
- Insert diversity and inclusive into the algorithm



References

- Dastin, Jeffrey (2018) Amazon scraps secret AI recruiting tool that showed bias against woman. Available at: <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G> (Accessed: 29 Nov 2021)
- Data Flair (2021) Advantages and Disadvantages of Machine Learning. Available at: <https://data-flair.training/blogs/advantages-and-disadvantages-of-machine-learning/> (Accessed: 25 Nov 2021)
- Matyunina, Julia (2020) 'How Machine Learning is Changing HR Industry', codetiburon [blog]. 17 Dec. Available at: <https://codetiburon.com/machine-learning-changing-hr-industry/> (Accessed: 29 Nov 2021)
- Poser, Susan and Sinha, Sharad (2018) 'How Machine Learning Can Improve Recruiting' Available at: <https://blogs.oracle.com/profit/post/how-machine-learning-can-improve-recruiting> (Accessed: 2 Dec 2021)
- SAS (2021) Machine Learning What it is and why it matters. Available at: https://www.sas.com/en_us/insights/analytics/machine-learning.html (Accessed 25 Nov 2021)
- Sennaar, Kumba (2019) Machine Learning for Recruiting and Hiring - 6 Current Applications. Available at: <https://emerj.com/ai-sector-overviews/machine-learning-for-recruiting-and-hiring/> (Accessed: 1 Dec 2021)
- Swant, Marty (2020) The World's Most Valuable Brands 2020. Available at: <https://www.forbes.com/the-worlds-most-valuable-brands/#430b3ac2119c> (Accessed: 2 Dec 2021)

