MACHINE LEARNING & HR RECRUITMENT

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DEFINITION

- Application of learning algorithms that are used to identify patterns and trend in the data mining process, through which a learning mechanism is developed (Colonna, 2013)
- Continuous learning through computational algorithms (Helm et al., 2020)
- Make accurate predictions in the future (Helm et al., 2020)
- Create predictive analytics that help HR managers to make better decisions in managing human capital (Levenson, 2018)

RECRUITMENT PROCESS

- Use Natural Language Processing to automate the process of extracting applicants' relevant information from unstructured data (Cernian and Sgarciu, 2017)
- Use ML to automatically rank candidates (Faliagka et al., 2012)
  - Identify Attributes to be used as selection criteria and develop algorithms
- Use ML to perform semantic matching (Faliagka et al., 2012)
  - calculate the semantic similarity between job postings and applicants' profiles
- Use of ML for personality mining using candidates' information from social media (Faliagka et al., 2012)
  - Linguistics Inquiry and Word Count System(LIWC) can extract and analyze linguistic feature that act as markers of personality

ADVANTAGES



😀 AUTOMATES TIME-CONSUMING AND REPETITIVE TASKS



😀 REDUCES BIAS



😀 TARGET A WIDE AUDIENCE AT A SMALL COST

EXAMPLE (EMIRATES GROUP)

- Use video interviewing (HireVue) to recruit staff
    1) Job analysis and assessment design
    2) Data Collection
    3) Module Build
    4) Test for Bias
    5) Implementing
    6) Ongoing Monitoring and Improvement
- Analyze word used, type and meaning of sentences and facial movements
- Take into consideration of culture
- Reduce Bias

(Larsen, 2018)

EXAMPLE (EMIRATES GROUP)

- After pandemic, recruit up to 10000 people in a short period of time
- Before, manually screen and filter applicants
- Cost saving up to 1.5 million AED
- Recruiters able to evaluate video interviews anywhere and anytime

  >improve efficiency
- Ease and comfort of interview

  > improve candidates' experience

(Larsen, 2018)

IMPACTS



Gradually steer away from administrative role and primarily become policy and strategy formulators



HR department size will decrease



Advice will be supported by data



Become proactive rather than reactive as they are better able to prepare for future workplace challenges



Require HR to become more analytical, data and technology-minded

KEY CHALLENGES FOR HR LEADERS TO APPLY ML IN REAL WORKPLACE

- Unable to evaluate some secondary characteristics associated with CVs, such as style and coherence, which are very important in CV evaluation.
- social media are often used by individuals to exhibit incomplete or exaggerated parts of their life
- Skill gap
- Changes in job roles
- Require large amount of data, difficult for SME to apply
- performance of the algorithm being affected by noisy data resulting from the inclusion of "non-traditional" candidates who would typically not pass through a conventional hiring process.

Ganatra & Pandya, 2023

CONCERNS

- Transparency: ML algorithms often operate as black box
  - Possible adverse reaction to management decisions via data-based algorithm
- Fairness
  - Algorithms usually built on historical data
- Data Privacy

Tambe et al., 2019

RECOMMENDATIONS

- Employee reactions: Create Employee consensus around the features used to train the algorithm
- Fairness: Ask data scientists to explain the model
- Randomization of input into algorithm: help establish causality
- Formation of AI council

Tambe et al., 2019

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