

EMERGING AUTOMATED FIELDS

COMM 335 GROUP 13

DEFINITIONS

- Artificial intelligence (AI): Science and engineering of making intelligent machines without being confined to methods that are biologically observable
- Machine learning: Specific branch of AI focused on development of statistical algorithms to generalise unseen data and automate tasks (n.d., "What is Artificial Intelligence (AI)?").
- Key idea: Jobs are becoming automated for a variety of benefits, including increased cost savings, more consistently accurate results, and improved productivity (n.d., UiPath Inc.).

DATA ANALYSIS (2024, VARLI)

- Streamline the process of data collection and analysis by decoding unstructured data, generating insights and forecasting of future outcomes and trends
- Possible that jobs with repetitive labour could be entirely automated, along with potential new jobs that utilise AI in conjunction with complex problem solving and critical thinking



MARKETING AND SALES (2023, INDEED EDITORIAL TEAM)

- Easier identification of target demographics
- Tracking viewer habits
- Predictive forecasting of sales



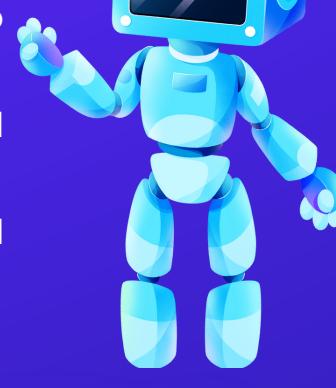
MANUFACTURING, PRODUCTION AND QUALITY CONTROL (2023, INDEED EDITORIAL TEAM)

- Nearly all forms of mass-scale manufacturing now include at least some form of automated work
- Quality control jobs that can be completed by automation are also increasing



APPROACHES TO MACHINE LEARNING (2023, TUCCI & BURNS)

- Supervised: Train algorithms with labelled datasets for assessing correlations
- Unsupervised: Train algorithms with unlabelled datasets to find patterns and insights
- Semi-supervised: Train algorithms with labelled datasets and further refine them with unlabelled datasets
- Reinforcement: Train algorithms with a predetermined goal and ruleset



CHALLENGES OF MACHINE LEARNING (2023, AK), (2023, BABIC, COHEN, EVGENIOU, GERKE)

- Changing relationships between inputs and outputs
- Significant differences between training and testing data
- Setting up machine learning algorithms to work in conjunction with human inputs
- Pushback from people opposed to the use of machine learning

