| S.No | Title of the paper | Methods/Approach | Pros/Cons | Year |
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| 1 | The Automation of Jobs: A Threat for Employment or a Source of New Entrepreneurial Opportunities? | Data:  1)German Socio-Economic Panel (SOEP) data  Models used  1)Regression | Pros:  1)Descriptive results  2)Multivariate Analysis  Cons:  1) | May 2015 |
| 2. | Are Robots/AI Viewed as More of a Workforce Threat in Unequal Societies? Evidence From the Eurobarometer Survey | The provided text outlines the method, participants, and procedure used in a research study. Here is a breakdown of the method used in this study:  1*.* ***Data Source***: The study utilised individual-level data from the Eurobarometer 87.1 survey conducted in 2017. Eurobarometer is a series of public opinion surveys conducted by the European Commission, and this particular survey focused on topics related to the impact of digitization and automation on daily life.  2. **Sample Selection**: The sample was limited to employed participants, resulting in a final sample size of 13,294 employed individuals. The decision to focus on employed participants was likely due to the study's specific interest in the effects of advanced technology on the workforce. | Pros:  1)**Multilevel Modeling:** Using multilevel models is appropriate for analysing data where observations are nested within higher-level units  2**)Full-maximum likelihood estimation,** ideal for extensive datasets and multiple Level 2 groups like countries, provides more precise model parameter estimates than other methods.  3)**The Intraclass Correlation Coefficient** (ICC) quantifies the share of outcome variance attributed to country-level factors, pivotal for assessing significant cross-country differences as hypothesised in the study.  **Cons:**  1)Limited Information on Model Fit  2)Control Variable Complexity  3)Interpretability of Coefficients:  4)Data Source Limitations | 7 July 2021 |
| 3. | Robots Worldwide: The Impact of Automation on Employment and Trade | The analysis seems to rely on econometric models and statistical techniques, rather than ML.  The section discusses the regression setting and econometric issues in the analysis of the impact of robots on employment. Here are the key methods and approaches used in the study:  1)Cobb-Douglas Production Function  2)Log-Linearization  3)Inclusion of Robot Stock  4)Dummy Variable for Labour Intensity  5)Cross-Country Trends  6)Instrumental Variable (TP Index)  7)Stylized Analytical Framework  8)Plausibility Checks | **Pros:**  **1)Causality Inference:** Instrumental variable (IV) analysis is valuable for establishing causal relationships in observational data by mitigating problems related to endogeneity and omitted variables, enhancing the validity of causal inferences.  **2)Endogeneity Mitigation:**  IVs are chosen to be exogenous and unrelated to the outcome variable, reducing endogeneity by isolating the impact of the independent variable (e.g., robot usage) from potentially confounding omitted variables, improving causal inference.  **3)Improved Validity:** When the assumptions of IV analysis are met, the estimates of causal effects are more valid and less biased compared to traditional regression methods.  **4)Policy Implications:** IV analysis is commonly used in economics and policy research to assess the impact of interventions or policies when randomized controlled trials are not feasible or ethical. It allows researchers to estimate causal effects in real-world settings.  **Cons:**  **1)Assumption Dependence:** IV analysis relies on several assumptions, including the relevance and exogeneity of the instrument.  **2)Instrument Selection:** Choosing a valid instrument can be challenging.  **3)Limited Generalizability:** IV estimates may only apply to specific contexts where the instrumental variable is relevant.  **4)Precision and Sample Size:** IV estimates can be less precise and may require larger sample sizes than traditional regression analysis.  **5)Complexity:** IV analysis is more complex than ordinary least squares (OLS) regression | March 9, 2020 |
| 4. | Jobs at Risk of Automation in the USA: Implications for Community College | **1)Data Collection:** The study collects occupation data from the 2019 Current Population Survey, which is a well-established source of labor statistics in the USA.  **2)Risk Estimation:** The risk of automation estimates for different job categories are adopted from Frey and Osborne (2017). These estimates are based on their research, which may have involved machine learning and data analysis techniques to assess the automation potential of various occupations.  **3) Data Matching and Calculation:** The study matches the risk of automation data with the Current Population Survey data and calculates the numbers and proportions of jobs at risk for different age groups and industries. These calculations likely involve standard statistical methods.  **4) Descriptive Statistics:** The study reports its findings using descriptive statistics such as percentages and numbers to summarize the results.  **5) Comparative Analysis:** The study compares the risks of automation across different industries and age groups, which would typically involve statistical comparisons and possibly regression analysis. | **Pros:**  **1)Data Reliability:** The study uses data from the 2019 Current Population Survey, which is a widely recognized and reliable source for labor statistics in the USA.  **2)Informative Insights**: The study provides valuable insights into the risk of job automation, which is a significant concern in the context of advancing technologies. It highlights the potential impact on various industries and age groups.  **3)Policy Relevance:** The research offers important information for policy and decision-makers, particularly in the field of education and workforce development, by emphasizing the role of community colleges in addressing automation-related challenges.  **4)Transparency**: The study outlines its data sources, methods, and findings, which enhances transparency and allows for potential replication or further research.  **Cons:**  **1)Lack of Detailed Information**  **2)Limited Scope:** The study's methods focus on statistical analysis and reporting, rather than delving into the underlying machine learning algorithms or data processing techniques.  **3)Data Lag:** The use of older data may not fully capture the most recent developments in automation technology and its impact on the job market.  **4)Assumption of Static Risk:** The study assumes that the risk of automation estimated by Frey and Osborne remains constant over the next few decades.  **5)Lack of Methodological Details** | January 25, 2021 |
| 5. | Predicting Challenge and Threat Appraisal of Job Demands  among Nurses: The Role of Matching Job Resources | **1)Data Collection:**The study was conducted as part of a larger research project on nurses' working conditions in Luxembourg.  Data collection was done through an online survey in the year 2021.  Data collection occurred during the COVID-19 pandemic.  **2) Participants :**  Inclusion criteria for participants required them to work a minimum of 20 hours per week and have at least 6 months of experience in a nursing profession.  **3) Measures:**  The study used established and validated scales to measure the relevant variables | **Pros** **:**  **1)Clarity in Objectives:**  The limitations section provides clear insights into the scope and objectives of the study, which helps readers understand the context in which the research was conducted.  **2)Transparency:**  The authors openly acknowledge the limitations of their study, demonstrating a commitment to transparency and academic rigor.  **3)Suggestion for Future Research:** The authors offer valuable suggestions for future research, indicating areas where further investigation could enhance the understanding of the subject matter.  **Cons:**  **1)Cross-Sectional Design:** While the authors defend the use of a cross-sectional design for their study, it remains a limitation in terms of drawing causal conclusions. Longitudinal or experimental designs could have provided more robust insights into causality.  **2)Sampling Bias:** The use of convenience sampling is acknowledged as a limitation. The lack of representativeness in the sample limits the generalizability of the findings.  **3)Potential Impact of COVID-19:** The acknowledgment of the impact of the COVID-19 pandemic on nurses' job stress is valid, but it could also be seen as a limitation, as it may have confounded the results. This factor could have been controlled for or investigated in more detail. | January 11, 2023 |
| 6. | Job Insecurity, Employability and Financial Threat during COVID-19 | Data Collection:  Survey through Amazon’s Mechanical turk  Methods:  Correlation among the attributes to find the effect of one attribute on the other attribute | **Pros**:  Attribute Importance:  The considered attributes are very essential with respect to the desired output.  Path Analysis:  The path analysis done in the paper from the obtained calculations are easy to correlate among the attributes used by the researcher.  **Cons**:  The dataset is not big enough to conclude various conclusions.  The dataset is obtained during the lockdown where the psychological conditions of the people is not in a good state which effects the quality of the dataset. | March 2023 |
| 7. | The Potential for Artificial Intelligence in healthcare | Data:  Dataset is not present but they gave the future prospects of AI in healthcare  Models:  Actual ML or AI models are not implemented but in which domain of the healthcare industry AI is infused is explained in detail | **Pros:**  Gives insights on how AI will play an essential part in the healthcare industry.  **Cons:**  It would have been implemented on a sample dataset to show which domain is going to adapt the most amount of automation. | June 2019 |
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