Contribution ID: **27** Type: **Poster + application for talk session**

AI and jobs: mapping forward-looking AI exposure metrics into occupational networks

Friday, 27 September 2024 11:50 (20 minutes)

To quantitatively investigate the AI impact on the world of work, the first challenge to address is how to measure AI's impact on individual occupations.
A major issue with the existing approaches is that they mostly depend on expert evaluations of AI capabilities in relation to occupational tasks. This reliance makes the process of gathering these evaluations less transparent, objective, and reproducible. Moreover, they inherently measure the 'potential' impact of AI on occupations rather than its actual impact.
In this paper, we develop a novel occupational AI exposure index to measure the near-future actual exposure of occupations to AI, rather than their potential exposure. Using data on AI applications from venture capital-funded startups, our index assigns an exposure score to occupations by connecting (with a large language model) descriptions of AI applications developed by startups to job descriptions. Unlike existing indices, our measure effectively maps concrete future market directions.
We compare the occupational AI exposure scores generated by our new index with those from the widely-used AI Occupational Exposure (AIOE) index. To do this, we adopt a network perspective. In particular, we construct a network of jobs, where two jobs are connected if they require a similar set of abilities.
When using the AIOE index, we observe two big clusters in the job network, indicating that jobs with similar exposure levels cluster together. This implies the existence of a "potential AI trap", where workers attempting to move from an AI-exposed job to a job requiring similar skills, would likely end up in another job with similar potential exposure.
Conversely, when applying our new metric, we uncover a different scenario: many occupations considered potentially exposed to AI are not actually targeted by AI startup applications. This results in the emergence of more, smaller clusters. Consequently, our finding suggests that an actual AI trap is still far.

Primary author: FENOALTEA, Enrico Maria (Centro ricerche Enrico Fermi (CREF))

Presenter: FENOALTEA, Enrico Maria (Centro ricerche Enrico Fermi (CREF))

Session Classification: Model Complexity with AI