COMP39/9900 Computer Science/IT Capstone Project
School of Computer Science and Engineering, UNSW

Project Number: P8

Project Titile: Career path analysis and lifelong learning

Project Clients: Sonit Singh

Project Specializations: Software development; Web application development; Artificial Intelligence (Machine/Deep Learning, NLP); Big data analytics and visualization.

Number of groups: 3

Background:

With the rapid development of technologies such as artificial intelligence (AI), generative artificial intelligence (GenAI), and internet of things (IoT), the landscape of jobs market is very dynamic and demands new skills and knowledge. Current and future workforce will have to either upskill as they move to new jobs within the same industry or reskill themselves, highlighting the importance and need of lifelong learning. Therefore, there is a need to collect and analyse data to understand evolving labour market landscape providing users the insights about career pathway trajectories and giving recommendations for retraining or reskilling.

Requirements and Scope:

The aim of the project is to collect and analyse job postings data collected by Burning Glass, user profiles or resumes on professional networking sites such as LinkedIn, Seek, and Indeed. We will extract key entities such as job titles, education, skills, and companies and analyse the data which can help us to visualise career trajectories and recommendations for future jobs.

The project requires team to scrap data from professional networking sites like LinkedIn, Seek, and Indeed, analysing it and building some sort of visualisation tool for career pathway modelling.

Required Knowledge and skills:

The team working on this project must have data science skill such as web scrapping, visualisation, and building models and have proficiency in Python programming. Given the goal of this project is to come up with a visualisation tool, familiarity with web application development is added benefit.

Expected outcomes/deliverables:

The team working on the project should deliver a written report on the project, source code, and working web application.

Supervision:

Sonit Singh

Additional resources:

[1]. Ghosh et al., Skill-based Career Path Modelling and Recommendation, IEEE International Conference on

Big Data, 2020.

[2]. https://ieeexplore.ieee.org/document/9377992

[3]. https://people.umass.edu/~andrewlan/papers/20bigdata-mnss.pdf

[4]. https://www.zavvy.io/career-pathing-software

[5]. NSW Digital Career Pathways tool

https://www.psc.nsw.gov.au/workforce-management/capability-framework/digital-career-pathways-tool

[6]. https://digitalcareerpathways.psc.nsw.gov.au/explorer