THREAT OF AUTOMATION

NO INDUSTRY IS SAFE

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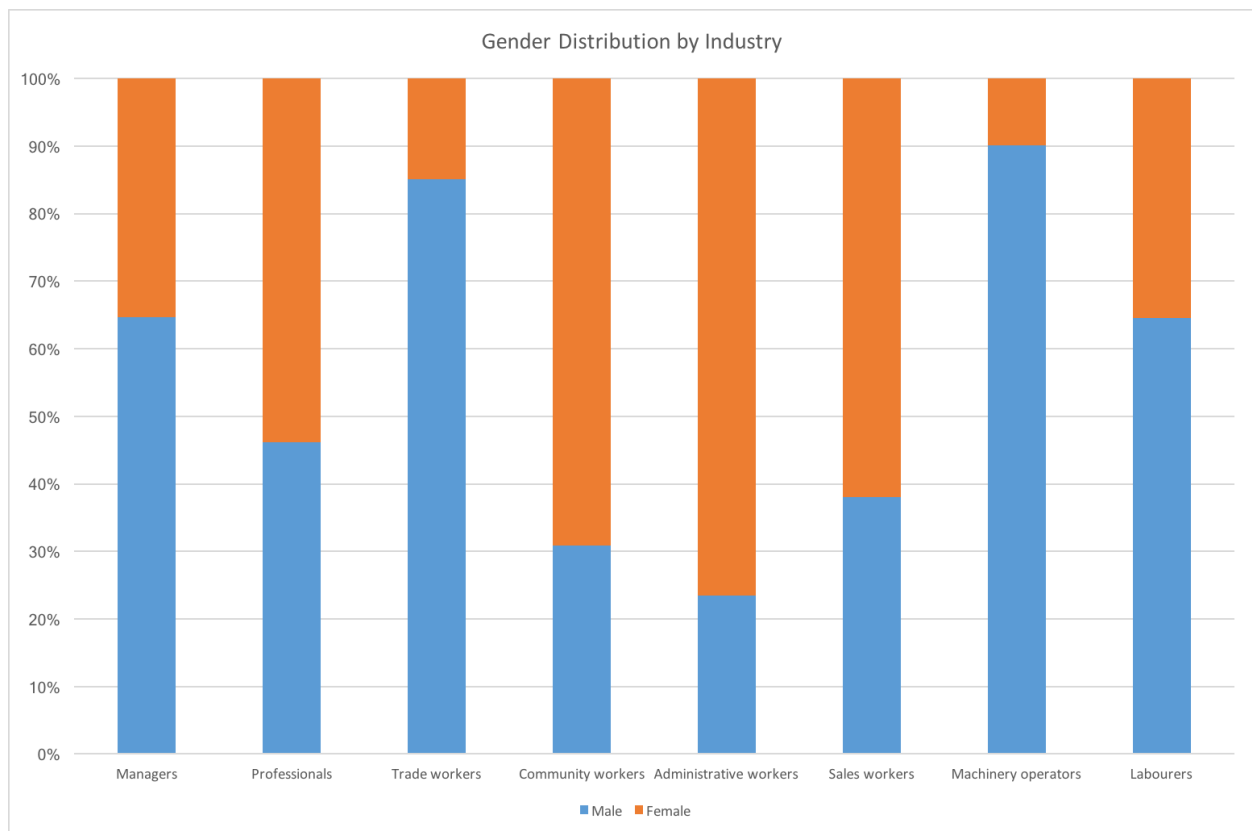JONATHAN DU

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1. EXECUTIVE SUMMARY

Across NSW, and all of Australia, various careers are facing a grave threat from automation. However automation is still often associated in the public mind with loss of factory and manufacturing jobs. This project attempts to show people just how grave the threat actually is.

We perform an analysis on on open data provided by various government agencies to quantify the precise impact automation will have to various industries. We show that the impact will be on not just low skill manufacturing jobs but also on high skill jobs such as accounting, legal and even technical jobs.

This project provides insight into this issue through an easy to use web interface accompanied by this detailed analytical report. The goal is to provide adequate early warning about the job loss due to automation that the entire labour force will face.
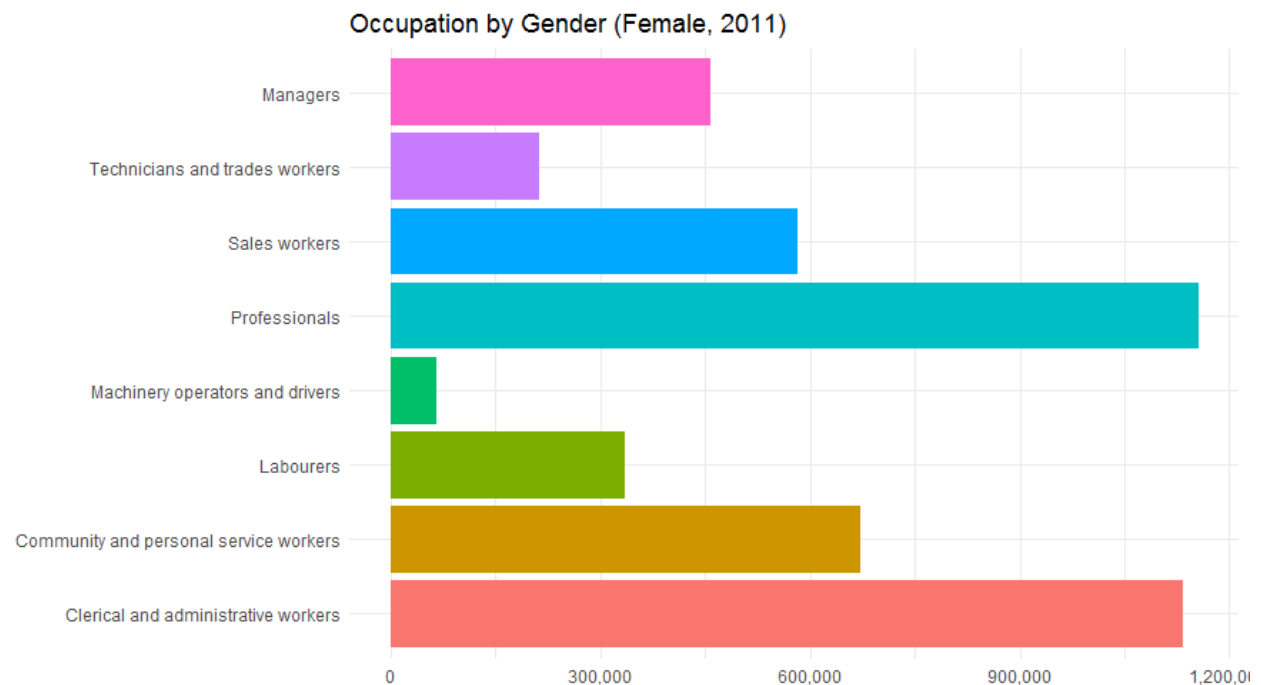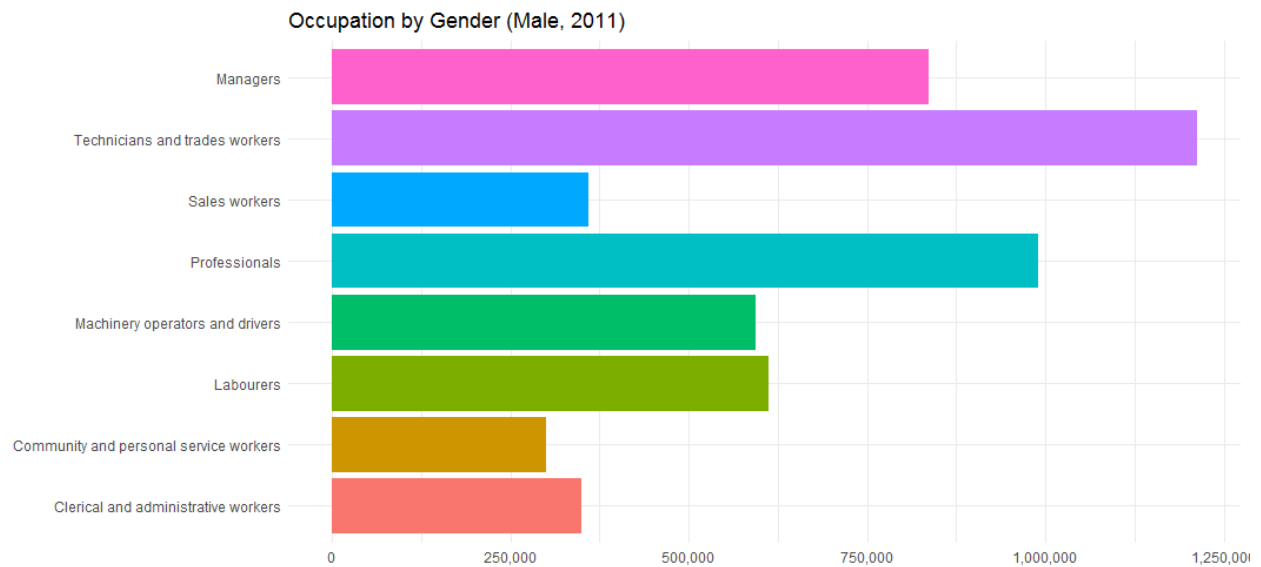
2. EMPLOYMENT BY INDUSTRY

As per the open data provided by the Department of Labour[1] the current employment figures across industries is as follows.
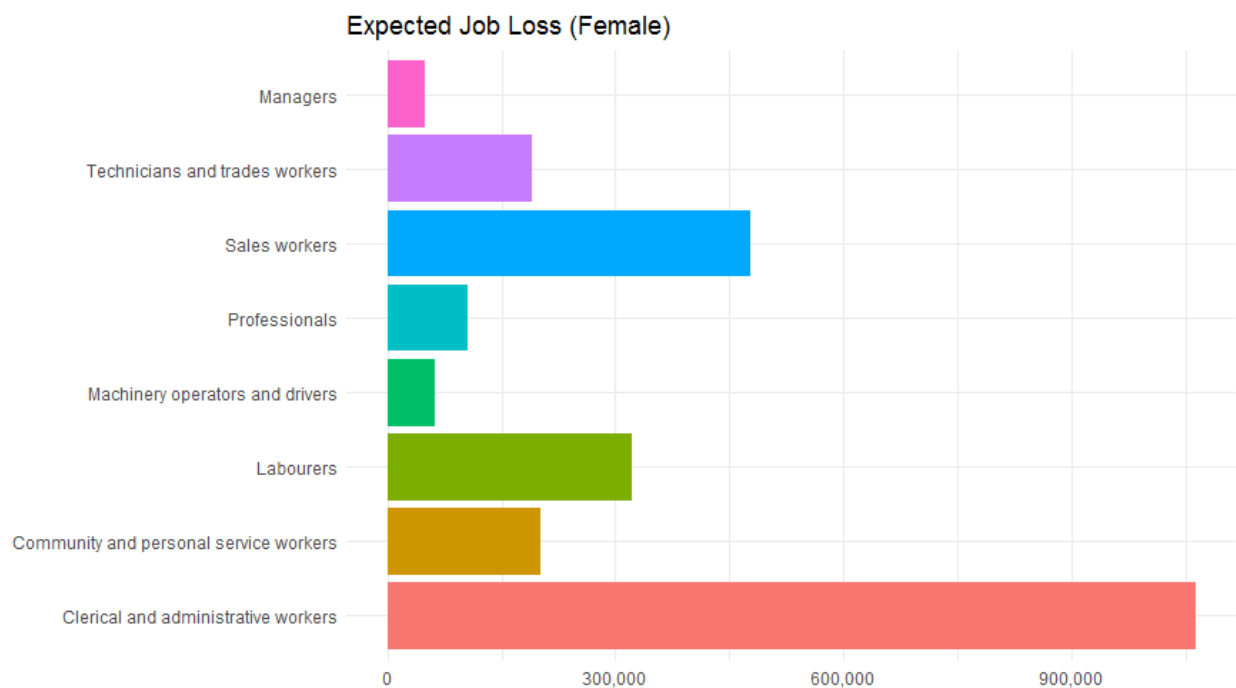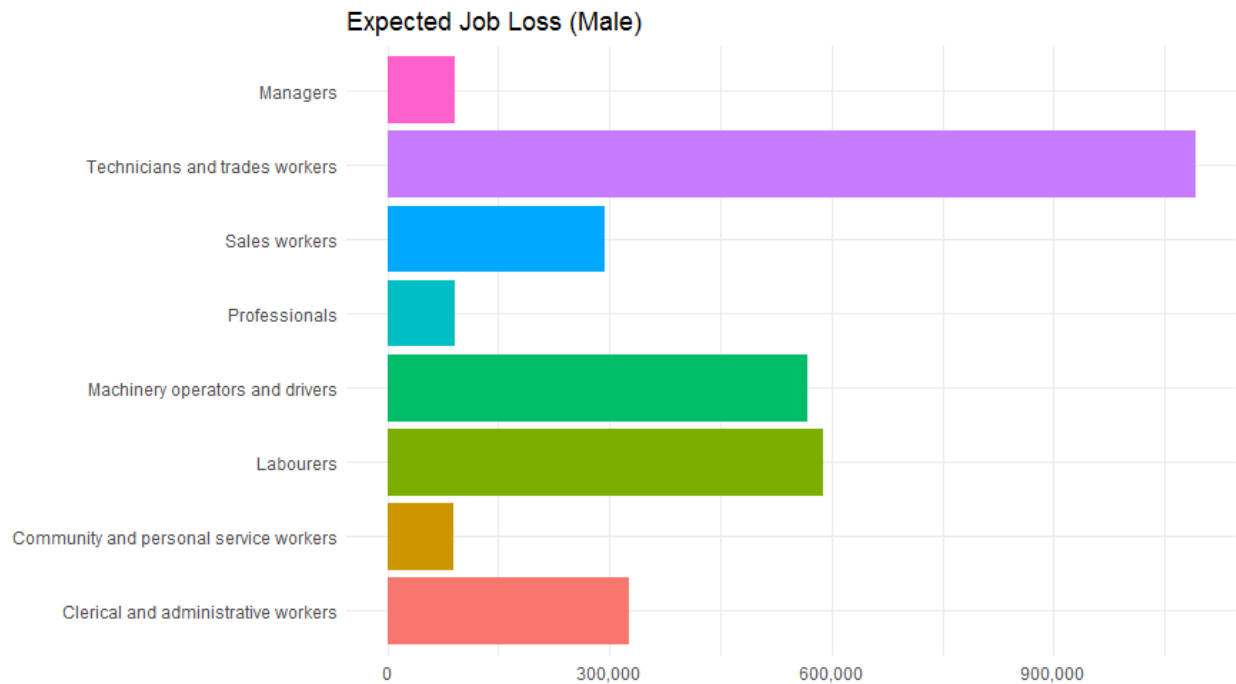
Men seem to be disproportionately represented among Trade Workers, Machinery Operators and Labourers, while there was a significantly higher percentage of women among Community Workers and Administrative Workers. Both groups are expected to be heavily impacted by computerization.

The total employment for men and women across occupations is as follows. Technicians and trades workers are mostly male and Clerical and administrative workers are mostly female. Jobs in both groups are expected to be reduced by over 90%, which would result in unemployment of over a million workers in each of these occupations.

Occupation by Gender (Male, 2011)

Occupation by Gender (Female, 2011)

3. IMPACT OF COMPUTERIZATION

Through the analysis of the report on computerization by the NSW Parliamentary Research Service[2] and cross referencing with data from the Department of Labour[3], the net change in jobs was estimated. The results show that all occupations will experience a net loss in jobs.

Expected Job Loss (Male)

Expected Job Loss (Female)

In the case of some industries (such as technology) the loss will be lower due to the creation of new jobs, for example there will be a sizeable increase in ICT jobs.

4. CONCLUSION

Upon detailed analysis of the open data it is clear that automation will pose a grave threat to employment opportunities across NSW and all of Australia. If nothing is done there will be widescale job displacement and the accompanying economic and social issues that would cause.

However the silver lining is that we are still in the early days of the automation wave. If the concerned government and non-governmental agencies take action now, the worst of the impact can be mitigated.

5. REFERENCES

1. *T34 Occupation by Sex*, http://stat.data.abs.gov.au/, Department of Labour

2. Chris Angus, *Future Workforce Trends in NSW*, p.5-55, NSW Parliamentary Research Service

3. *T33 Industry of Employment by Sex*, http://stat.data.abs.gov.au/, Department of Labour