APEC – Closing the Digital Skills Gap Forum
Create economic opportunity for every member of the global workforce
The Economic Graph

- 630M Members
- 30M Companies
- 20M Open Jobs
- 35K Skills
- 90K Schools
- 109B Updates viewed
LinkedIn uses algorithms and data science to transform data into labor market insights.
Features of LinkedIn data

- **Global**: Compare hundreds of countries and cities.
- **Granular**: Breakdown by location, industry, occupation, etc.
- **Real-Time**: Members constantly update their profiles.
- **Historical**: Monitor data – like migration patterns – over time.
AI Talent: Who, Where, What?
AI and emerging technologies will have an impact on the global workforce, no matter where we live and work.
It is important to understand what is the lay of the land for AI.

And for each country to understand its local challenges and design suitable interventions.

Closing this gap in the foreseeable future.
Identifying AI talent

Model Input

LinkedIn Member Profile
- Title
- Skills
- Position
- Description

Model

Keywords
- neural networks
- scikit-learn
- tensorflow
- deep learning
- machine learning
- scikit
- theano
- reinforcement learning
- caffe
- artificial intelligence
- computational intelligence
- cnkl
- reinforcement learning

Model

Text classifier
Machine learning approach

Output

AI Professional
Non-AI Professional
AI Talent: Who, Where, What?

Industry Insights
Professional Attributes
Demographics
Proportion of AI Talent in each country

United States (San Francisco)  1.65%
Singapore          0.38%
Australia        0.18%
Canada           0.17%
Malaysia         0.10%
Top Industries where AI talent work

Key insight:
There are localized differences in the focus area for AI - Software & IT is the generally the top industry where AI talent works, with exception of Singapore where Education tops the charts.
Most Common Roles of AI talent in various industries

For Tech, Manufacturing and Finance industries, AI talent takes up software engineering and data scientist roles, while for Education there is more academia focus with AI talent taking up researcher and professor positions.
# Top 10 skills unique to AI talent in each country

<table>
<thead>
<tr>
<th>#1</th>
<th>Australia</th>
<th>Canada</th>
<th>Malaysia</th>
<th>Singapore</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Python</td>
<td>Python</td>
<td>Python</td>
<td>Python</td>
<td>Python</td>
<td>Python</td>
</tr>
<tr>
<td>Machine Learning</td>
<td>C++</td>
<td>Machine Learning</td>
<td>Machine Learning</td>
<td>C++</td>
<td>Machine Learning</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Machine Learning</td>
<td>Data Analysis</td>
<td>Data Analysis</td>
<td>SQL</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>SQL</td>
<td>Java</td>
<td>C (Programming Language)</td>
<td>Research</td>
<td>C (Programming Language)</td>
<td>C (Programming Language)</td>
</tr>
<tr>
<td>C++</td>
<td>Data Analysis</td>
<td>JavaScript</td>
<td>Software Development</td>
<td>Linux</td>
<td>Linux</td>
</tr>
<tr>
<td>Programming</td>
<td>Matlab</td>
<td>C (Programming Language)</td>
<td>Matlab</td>
<td>Javascript</td>
<td>Javascript</td>
</tr>
<tr>
<td>Matlab</td>
<td>JavaScript</td>
<td>Data Analysis</td>
<td>JavaScript</td>
<td>Programming</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>Software Development</td>
<td>Research</td>
<td>Programming</td>
<td>Programming</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Key insight:

7 out of the top 10 pertinent skills possessed by AI professionals are programming languages. Python is the most popular coding language amongst AI professionals with about 35% listing it.
The split between male and female AI talent

<table>
<thead>
<tr>
<th>Country</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>18%</td>
<td>81%</td>
</tr>
<tr>
<td>Canada</td>
<td>18%</td>
<td>81%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>26%</td>
<td>73%</td>
</tr>
<tr>
<td>Singapore</td>
<td>28%</td>
<td>71%</td>
</tr>
<tr>
<td>United States</td>
<td>23%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Key insight: There is a stark gender gap - only **20%** of the AI professionals are female.
The gender split across different industries

**Key insight:**
AI gender gap is wider than the general gender gap in each industry, indicating gender imbalance within AI. This is seen even in industries like Education and Healthcare, which are traditionally popular with female professionals.
Summary

- With AI becoming prominent even in non tech industries, we need to start thinking of industry specific interventions to prepare the workforce.

- Apart from tech skills in AI, soft skills remain important to navigate the uncertainty and constant changes in the labour market.

- Interventions may also be necessary to avoid perpetuating the gender gap.

- In collaboration with governments and public sector organisations, insights from private organisations can be highly valuable in understanding the labour market trends and preparing for the future of work.
Thank you