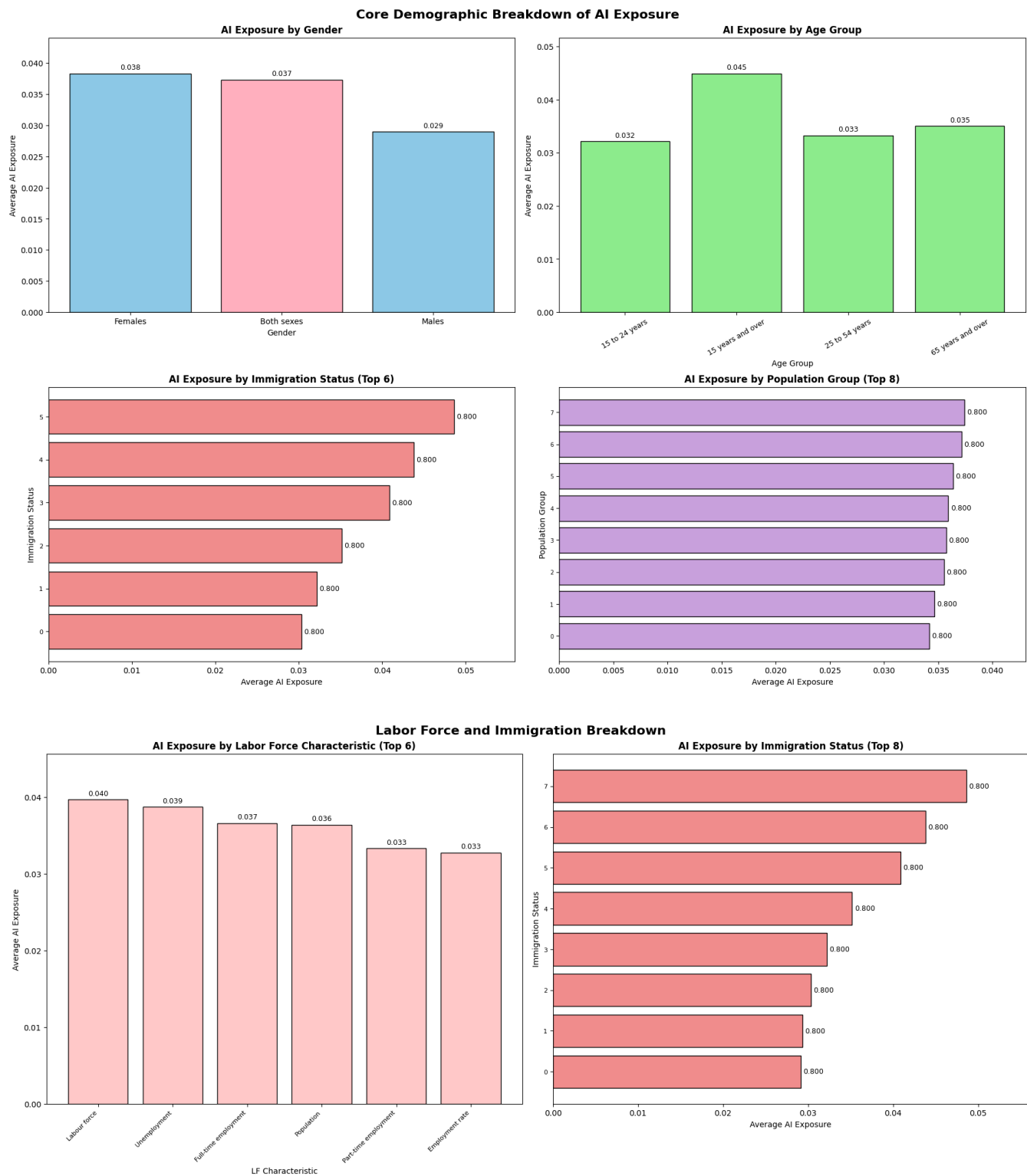


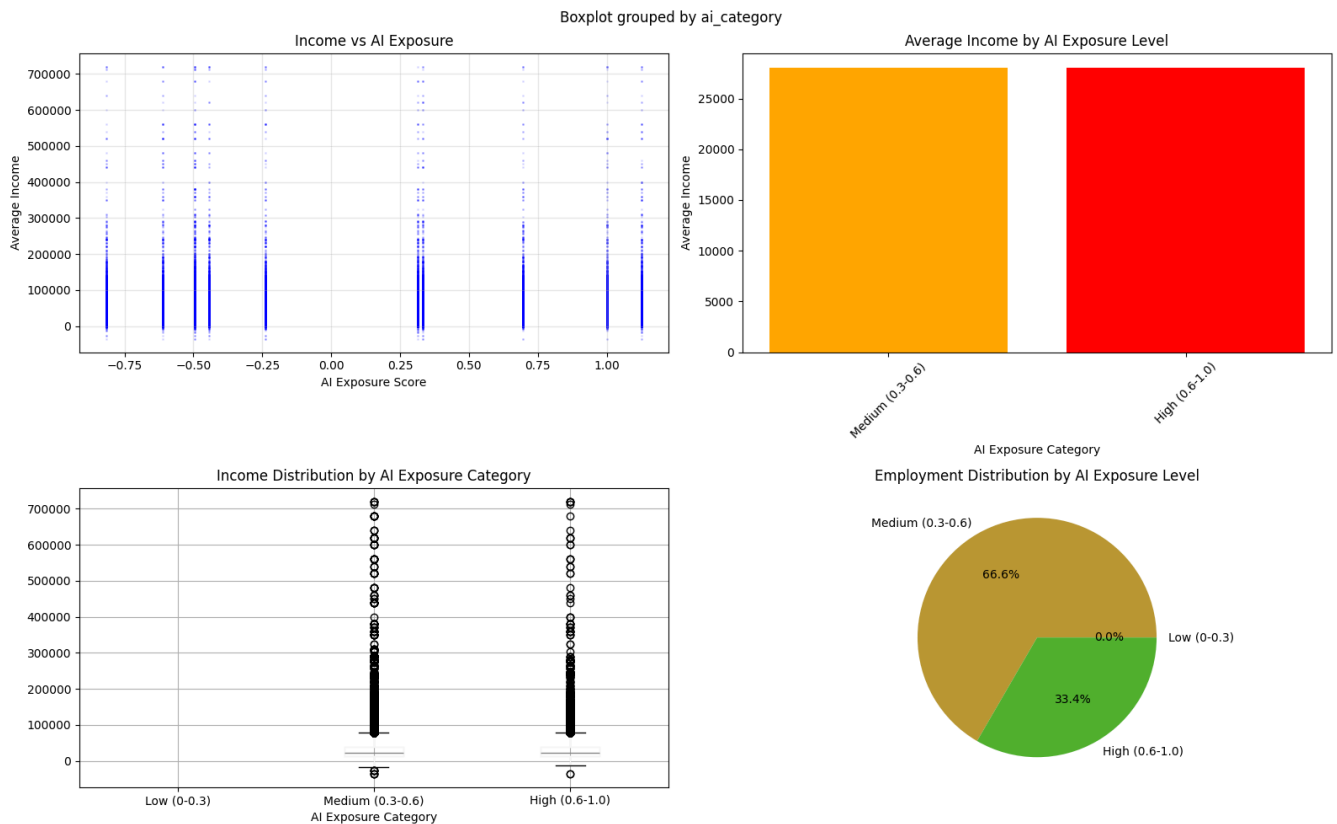
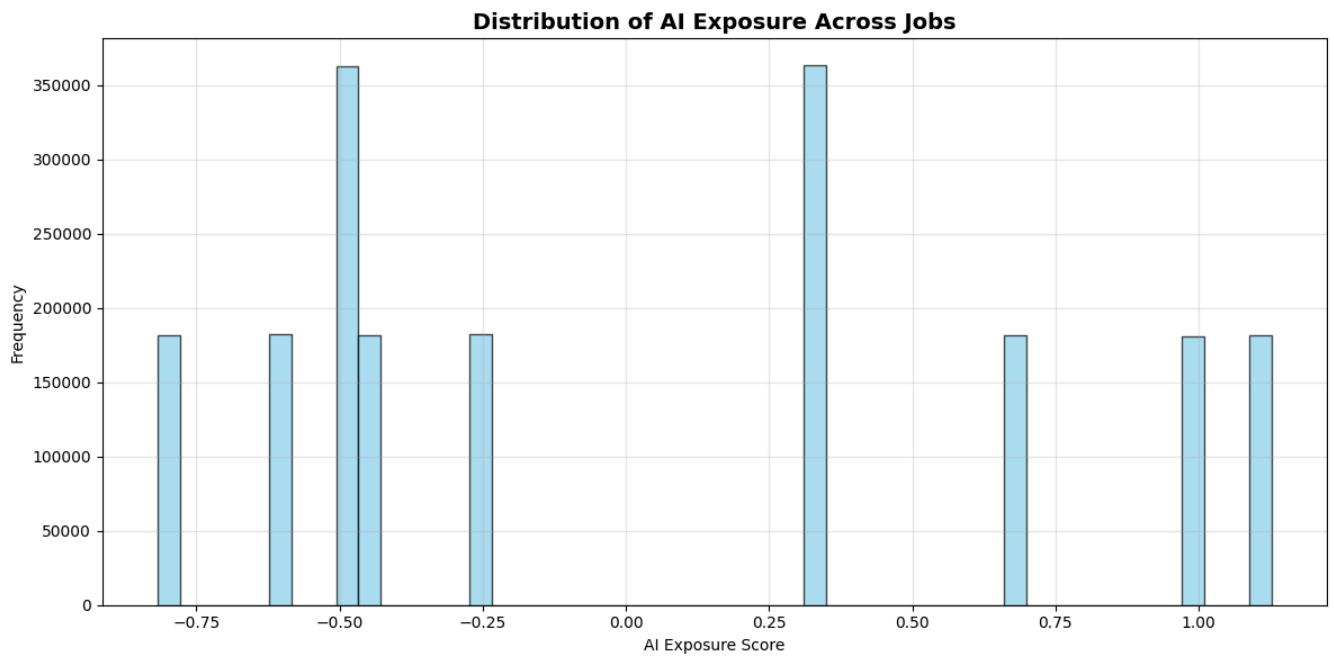
# TechNation AI Exposure Analysis

This notebook analyzes AI exposure in jobs using a large dataset from TechNation. We load the full dataset, perform quality analysis, sample a reduced dataset for visualization, conduct demographic and occupational analysis (including labor force characteristics, immigration status, and population groups), and generate insightful charts.

## Visualizations

Charts are grouped for better readability: distributions, demographics (4-panel), labor force & immigration (2-panel), occupations, income (enhanced), and summary metrics.



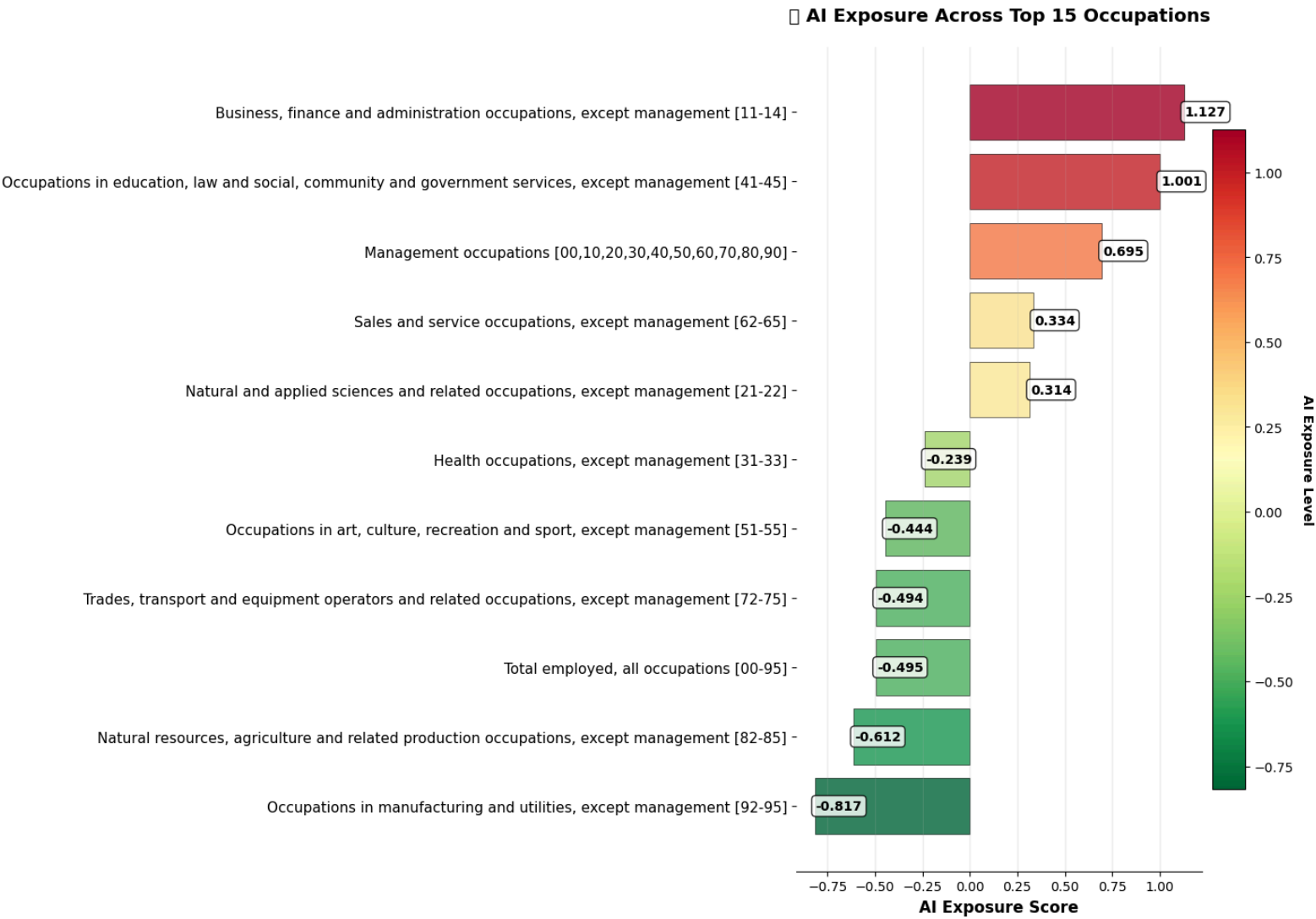


## Key Insights

Total employment analyzed: 29,767,599,770  
 Weighted average income – High AI: \$28,047

Highest AI exposure by Labour Force Characteristic: Labour force (0.040)  
 Highest AI exposure by Population Group: Latin American (0.037)  
 Highest AI exposure by Immigration Status: Second generation (0.049)

# AI Exposure Across Occupations



**What the chart shows** Average **AI-exposure scores** by broad occupation group.

- Bars to the **right (red/orange)** = higher exposure (more tasks likely to be impacted/augmented by AI).
- Bars to the **left (green)** = lower exposure.
- **Zero** is the mid-point.

**Highest exposure (prioritize upskilling)**

- **Business, finance & administration** — **+1.13**
- **Education, law, social/community & government services** — **+1.00**
- **Management** — **+0.70**
- **Sales & service** — **+0.33**
- **Natural & applied sciences** — **+0.31** *These are information-heavy roles with a lot of analytical, communication, and documentation tasks—prime candidates for AI augmentation.*

**Lower exposure (more task insulation today)**

- **Health** — **-0.24**
- **Arts, culture, recreation & sport** — **-0.44**
- **Trades, transport & equipment operators** — **-0.49**
- **Natural resources & agriculture** — **-0.61**
- **Manufacturing & utilities** — **-0.82** *These roles lean on hands-on, physical, or tightly regulated tasks where current AI substitutes less.*

**Economy benchmark**

- **Total employed (all occupations)** sits near **-0.50**, so the average job skews toward **lower AI exposure**.

**Bottom line** AI will **first reshape white-collar work**. Focus reskilling and policy on business/admin, public sector/education, and management, while tracking wage and vacancy changes there. Manual and production roles see **slower direct AI impact** today (though robotics/automation still matter).