Future Research Directions

Bias Mitigation and Dataset Fairness

- **Why it matters:** VLMs trained on web-scale data often inherit social, gender, and cultural biases.
- **Risks:**
  - Stereotyping, exclusion, misinformation
  - Negative impact in education, hiring, or healthcare
- **Approaches:**
  - Curated datasets with diverse representation
  - Post-hoc debiasing techniques and fairness audits
- **Goal:** Ensure VLMs are ethical, inclusive, and fair.