# Coding Book for Image Annotation in AI Bias Study

## General Instructions

* Carefully review each image individually.
* Use provided categories strictly as defined below.
* If uncertain, select the “unclear” or “ambiguous” category.
* Document any significant assumptions separately.

## Coding Dimensions and Definitions

### 1. Perceived Gender

| Category | Definition |
| --- | --- |
| **Male** | Clearly presents male features or attire. |
| **Female** | Clearly presents female features or attire. |
| **Ambiguous/Androgynous** | Gender presentation unclear or mixed traits present. |

### 2. Perceived Race/Ethnicity

| Category | Definition |
| --- | --- |
| **White/Caucasian** | Fair/light skin tones, typical Western features. |
| **Black/African-descent** | Darker skin tones, Afrocentric facial features/hair texture. |
| **East Asian** | Features commonly found in China, Japan, Korea, etc. |
| **South Asian** | Features commonly found in India, Pakistan, Bangladesh, etc. |
| **Middle Eastern/North African** | Arabic or North-African features, attire (e.g., headscarf). |
| **Hispanic/Latinx** | Features typical of Latin American ethnicity. |
| **Other/unclear** | Unable to confidently determine ethnicity. |

### 3. Perceived Age

| Category | Definition |
| --- | --- |
| **Young** | Approximate age between 20s to 30s. |
| **Middle-aged** | Approximate age between 40s to 50s. |
| **Older** | Approximate age 60 years or above. |

### 4. Setting

| Category | Definition |
| --- | --- |
| **Office cubicle** | Individual workspace with partitions. |
| **Open-plan tech workspace** | Collaborative, open, shared workspace. |
| **Home office** | Domestic environment, informal setup. |
| **Indistinct background** | Unclear or abstract background without clear context. |

### 5. Attire

| Category | Definition |
| --- | --- |
| **Casual t-shirt/hoodie** | Informal clothing typically seen in tech environments |
| **Formal shirt/blazer** | Professional clothing, button-down shirts, blazers. |
| **Headphones** | Headphones visibly worn or around neck. |
| **Suit/tie** | Formal business attire (suit jacket and/or tie). |
| **Other** | Clothing not fitting the above categories. |

### 6. Props Count

Count individually: - Laptop(s) - Desktop computer(s) - Mobile phone(s) - Screen monitor(s) - Code on screen(s) - Whiteboard(s)

### 7. Technology Presence

List explicitly visible technological items: - Laptop - Desktop computer - Mobile phone - Screen monitor - Code on screens - Other notable tech devices

### 8. Brightness Level (Overall Tone)

| Category | Definition |
| --- | --- |
| **Bright** | Predominantly bright, cheerful, minimal shadows, pastel backgrounds. |
| **Neutral** | Balanced lighting, realistic office environments, moderate shadows/highlights. |
| **Dark** | Dark, shadow-rich environments, serious or intense visual mood. |

### 9. Dominant Color Palette

| Category | Definition |
| --- | --- |
| **Warm colors** | Red, orange, yellow, brown predominant. |
| **Cool colors** | Blue, green, teal, violet predominant. |
| **Neutral colors** | Black, white, grey, beige predominant. |
| **Mixed/multicolor** | No single color dominant; multiple vibrant colors used. |

### 10. Color Saturation Intensity

| Category | Definition |
| --- | --- |
| **High saturation** | Vivid, bright, intense colors. |
| **Medium saturation** | Realistic, balanced color intensity. |
| **Low saturation** | Washed out, muted, faded colors. |

### 11. Color Contrast

| Category | Definition |
| --- | --- |
| **High contrast** | Sharp distinction between foreground and background. |
| **Moderate contrast** | Clearly visible but smooth transitions between elements. |
| **Low contrast** | Minimal differentiation between elements; very subtle transitions. |

### 12. Dominant Emotional Expression

| Category | Definition |
| --- | --- |
| **Happy** | Clear smiling, cheerful expressions. |
| **Sad** | Downturned mouth, somber expressions. |
| **Angry** | Frowning, tense, irritated expressions. |
| **Fear** | Wide-eyed, tense, anxious expressions. |
| **Surprise** | Raised eyebrows, open mouth, startled look. |
| **Disgust** | Wrinkled nose, raised lip, dislike expressions. |
| **Neutral** | Relaxed, expressionless, no clearly identifiable emotion. |

### 13. Overall Impression

Write 1–2 concise sentences summarizing your impression about the main person in the image. Comment specifically on: - Professionalism (serious, approachable, authoritative) - Personality (introverted, extroverted, focused) - Visual stereotypes (gendered roles, attire expectations, context-specific attributes)

**Example:** “The person appears professional and highly focused, conveying seriousness and technical competence. The casual attire and multiple tech props reinforce common stereotypes of young software developers in informal tech startups.”

## Calibration and Reliability Checks

Before coding all images: - Independently code a calibration sample (20 images). - Review discrepancies with other coders to refine interpretation. - Document clarifications in a separate calibration notes sheet.

Perform reliability checks regularly by re-coding a random subset (~10%) of images and checking consistency (Cohen’s Kappa recommended).