

# Subject Perception Lead Street View Image Generation

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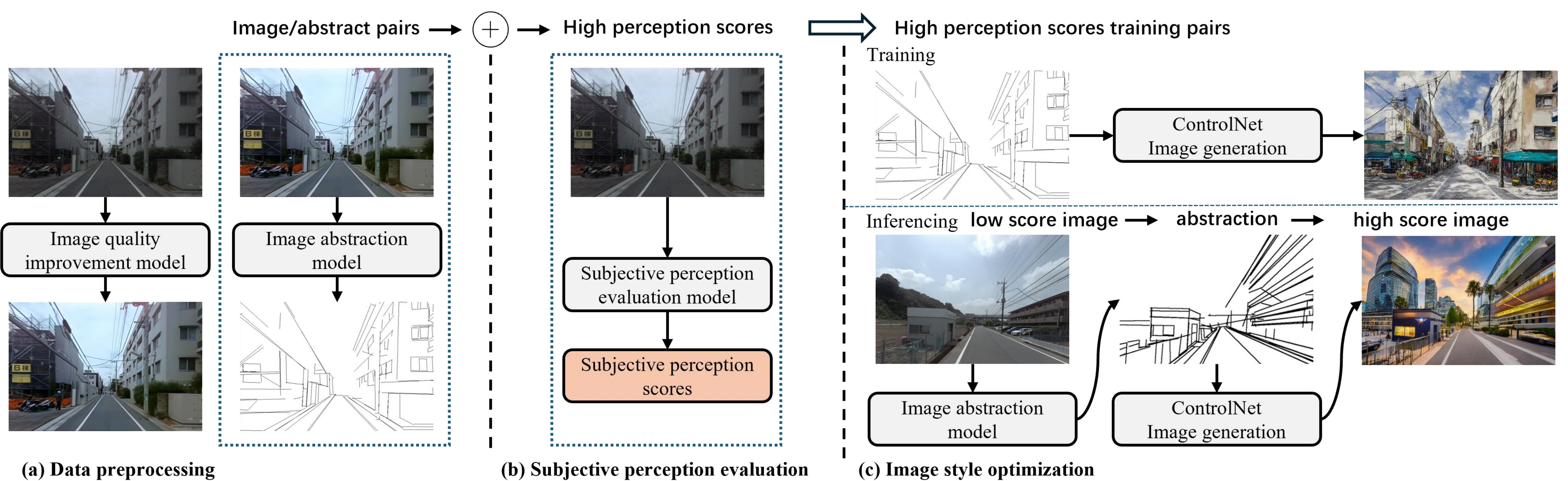
## Background

Recently, AIGC (artificial intelligence generated content) has shown its outstanding performance in image generation, which provided technic seed for generating street view image (SVI) according to people's preference. In this study, we proposed a deep fusion model based on subjective perception, Stable Diffusion and ControlNet model, to generate high perception score SVIs which present landscape proposals that are "more attractive" or "safer", aimed at improving the current landscape's subjective impressions.

## Contribution

1. We proposed a deep fusion model to generate high perception score SVIs which present landscape proposals that are "more attractive" or "safer".
2. The model support generation of various scenarios based on the original contents.
3. The success rate of improving subjective perception score is 86.36% and improved the scores by 19.32%.

## Workflow



## Dataset

### SVI of Setagaya Ward:

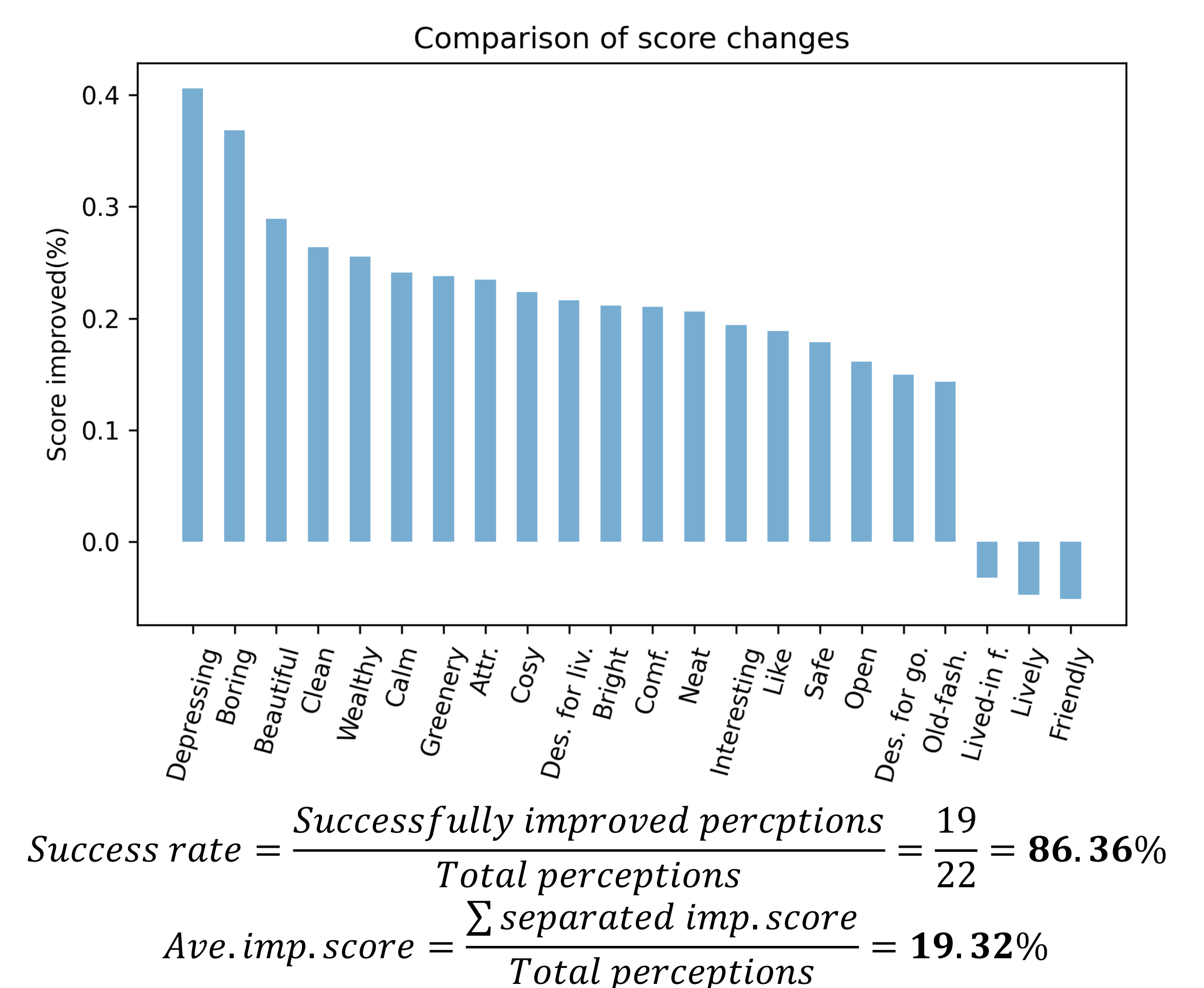
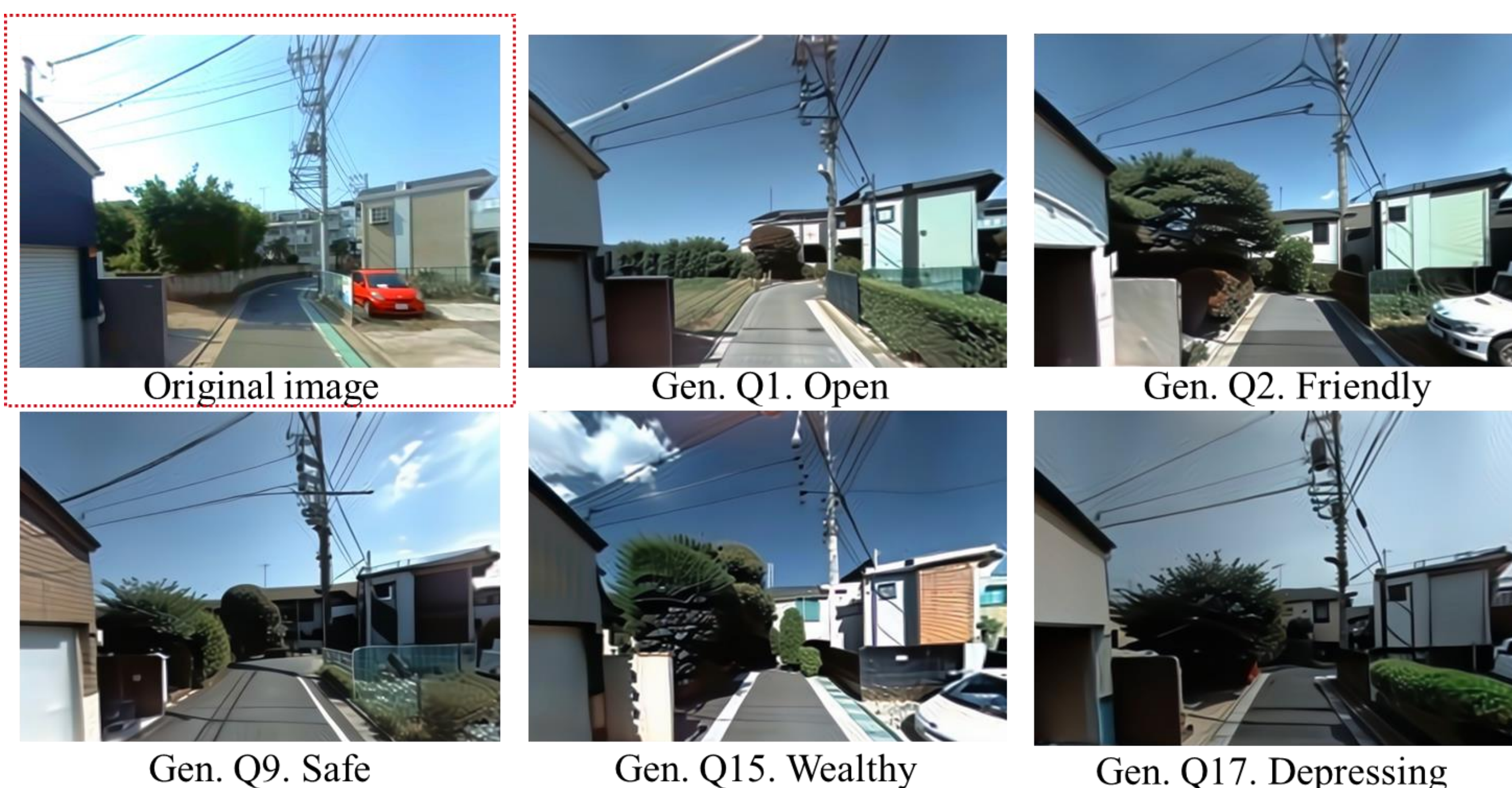
610,019 images, 2.5 meters capture interval, 720 x 500.

### Web survey data:

10,000 image pairs, 8.8M responses, 22 perception attributes.



## Result



Possible subjective attributes, we can make the SVI more:

1. Open; 2. Friendly; 3. Lively; 4. Comfortable; 5. Greenery; 6. Calm; 7. Bright; 8. Old-fashioned; 9. Safe; 10. Neat; 11. Lived in feel; 12. Cozy; 13. Clean; 14. Beautiful; 15. Wealthy; 16. Boring; 17. Depressing; 18. Like; 19. Interesting; 20. Desirable for living; 21. Desirable for going through; 22. Attractive.