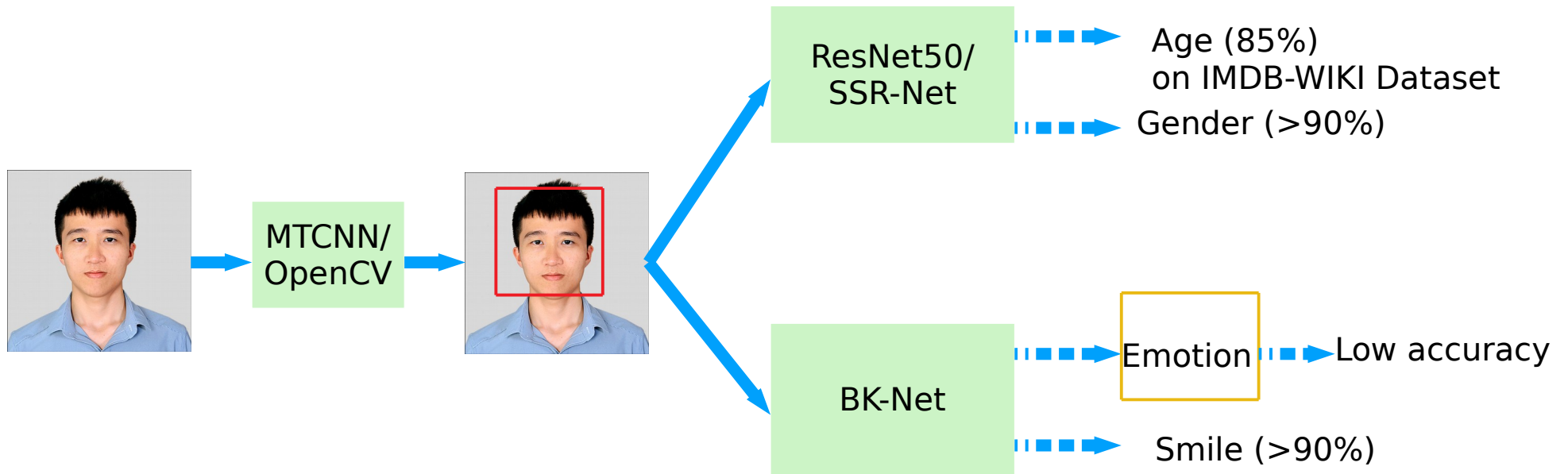


FACE RECOGNITION

Pipeline



Emotional recognition

| Problems | Solutions |
|---|--|
| BKNet is multi-task learning model, but not really good for emotional recognition | <ul style="list-style-type: none">- Develop a new CNN- Combine with facial landmark detection |
| Not enough data (FER data set) | <ul style="list-style-type: none">- Collect more data- Use GAN (Generative Adversarial Networks) to generate more data |

| Emotion | Quantity |
|-----------|----------|
| Disgust | 547 |
| Anger | 4953 |
| Surprise | 4002 |
| Sadness | 6077 |
| Calm | 6198 |
| Happiness | 8989 |
| Fear | 5121 |