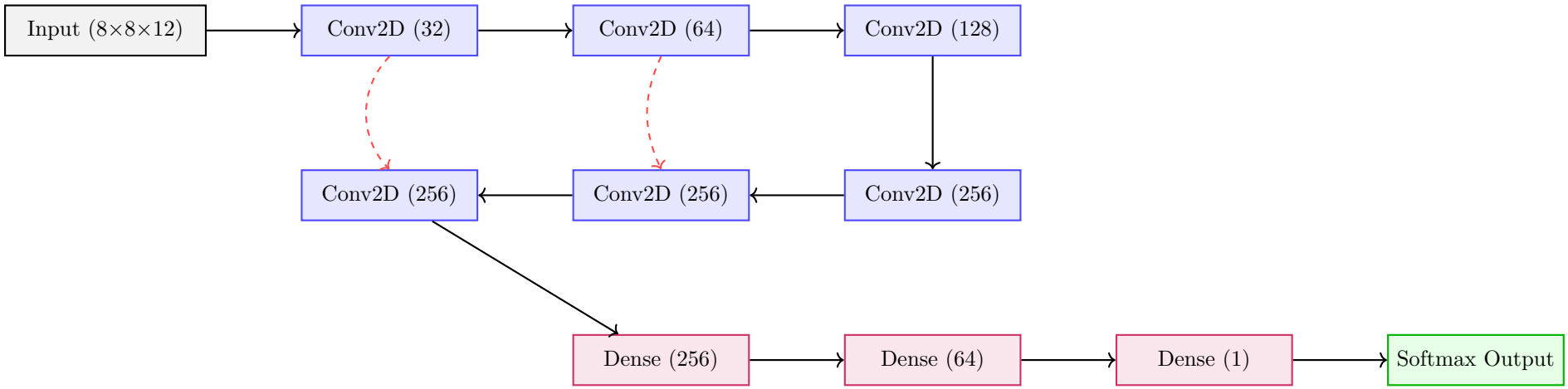
Chess AI CNN Architecture

Flowchart Overview



Architecture Details

- **Input Layer:** 8×8 chess board with 12 channels (6 piece types × 2 colors)
- **Convolutional Layers:** Feature extraction starting with smaller filters (32, 64) and expanding to larger feature maps (128, 256)
- **Skip Connections:** Dashed red arrows indicate residual connections that preserve early spatial features
- **Dense Layers:** Final classification network that evaluates board positions
- **Output:** Probability distribution over possible moves

Implementation Notes

- All Conv2D layers use 3×3 filters with ReLU activation
- Batch normalization is applied after each convolutional layer
- Skip connections implement residual learning to improve gradient flow
- Dense layers use dropout (0.3) to prevent overfitting