

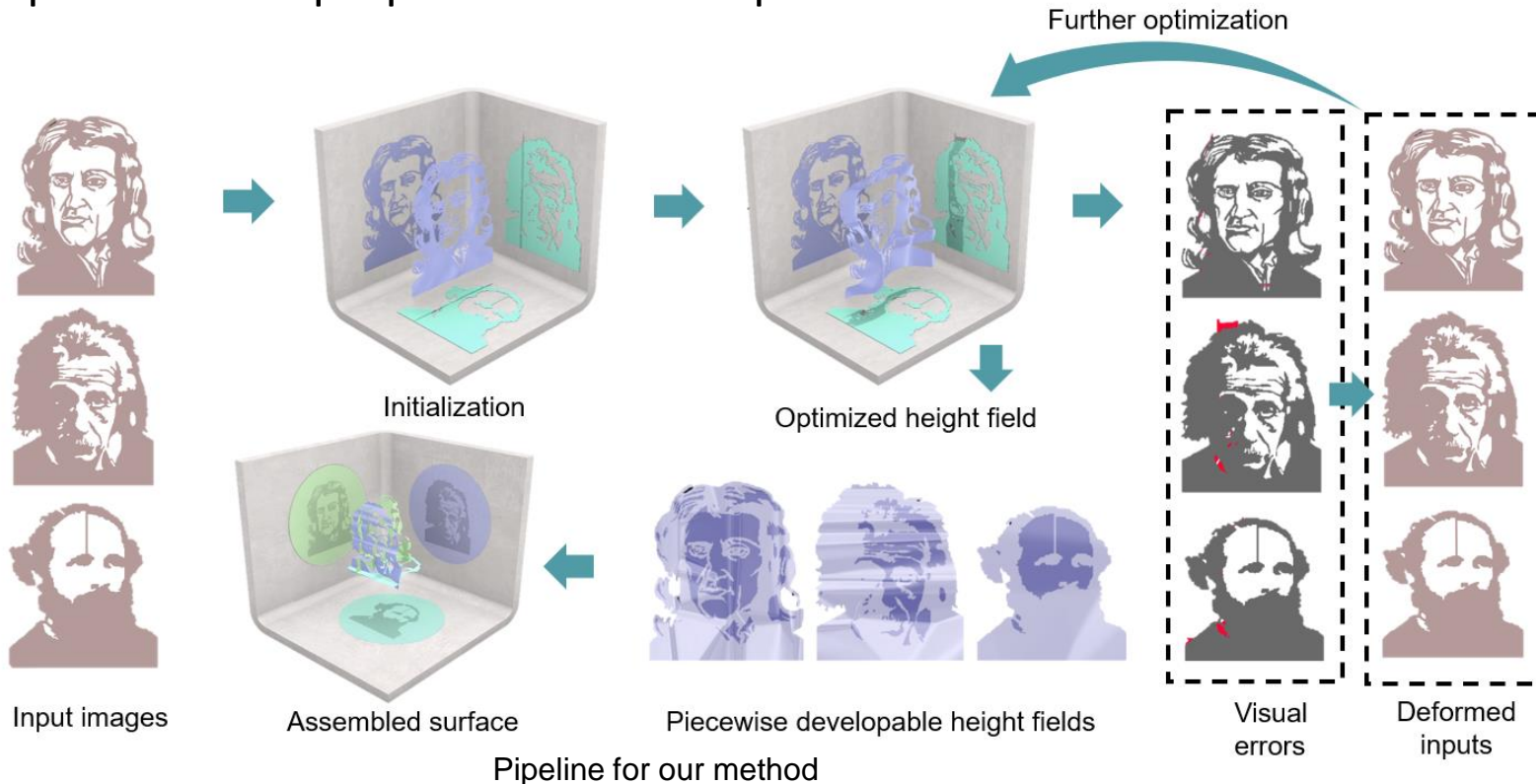
Paper Shadow Art

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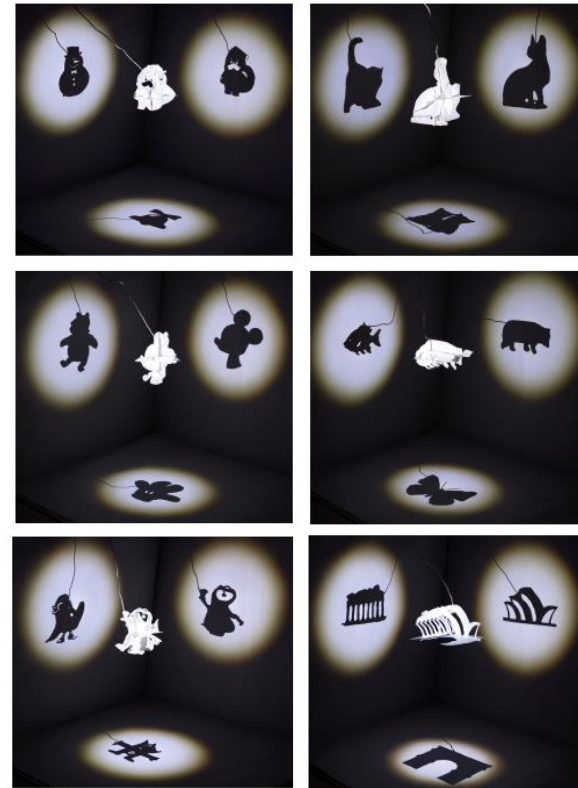
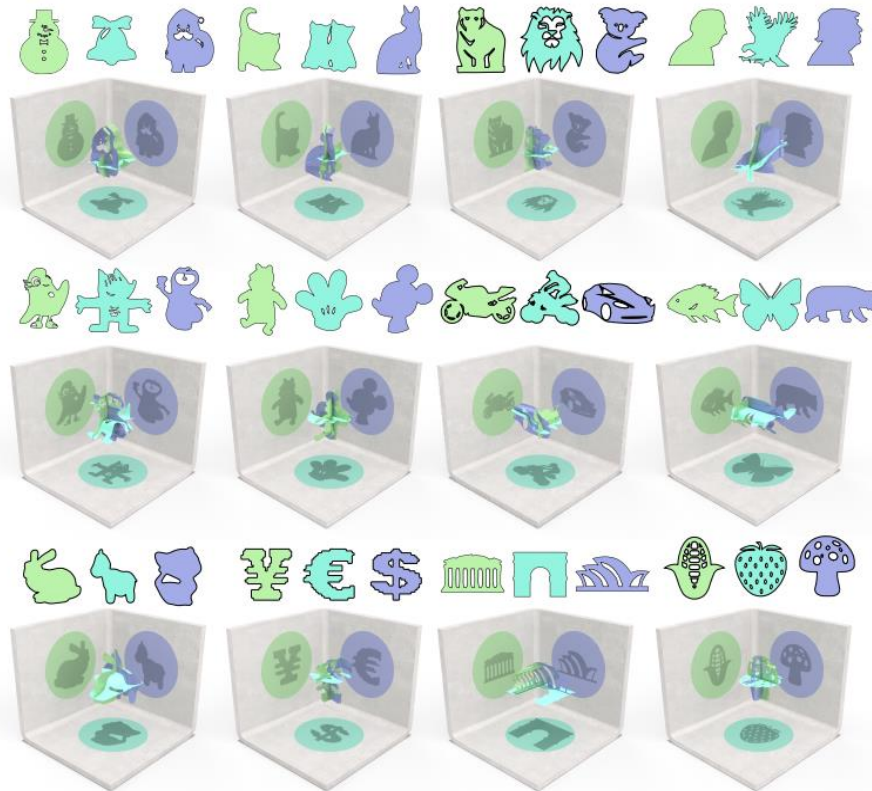
Problems & Ideas

- We aim to develop a computational method to create multi-view surface-based shadow art, satisfying :
 - The difference between the input and shadow images is small;
 - The patch number is small, making fabrication efficient;
 - The patches are developable to enable physical fabrication via paper.
- Ideas: We transform surface shadow art into a height-field optimization problem and propose an iterative optimization-deformation framework



Main Contributions

- Contributions:
 - By optimizing the height fields one at a time, we significantly reduce complexity;
 - Our approach produces fewer paper sheets, lower visual errors, and can handle more than two input images compared to the artist's artworks.



Twelve artworks created using our approach (left). Several of them have been physically fabricated, with their shadows elegantly cast on the wall (right).