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# Compressed Sensing with a Jackknife, a Bootstrap, and Visualization

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**Abstract**

This supplementary material provides the appendices, Appendices A and B.

*Keywords*: error estimation, visualization, medical imaging, magnetic resonance imaging, compressive sensing, compressive sampling.

## A. Supplementary jackknives and bootstraps

This appendix supplements Figures 2–5 of Section 3 with analogous figures for twenty cross-sectional slices through the head of the patient (Figures 2–5 of Section 3 are for slices 3 and 10).

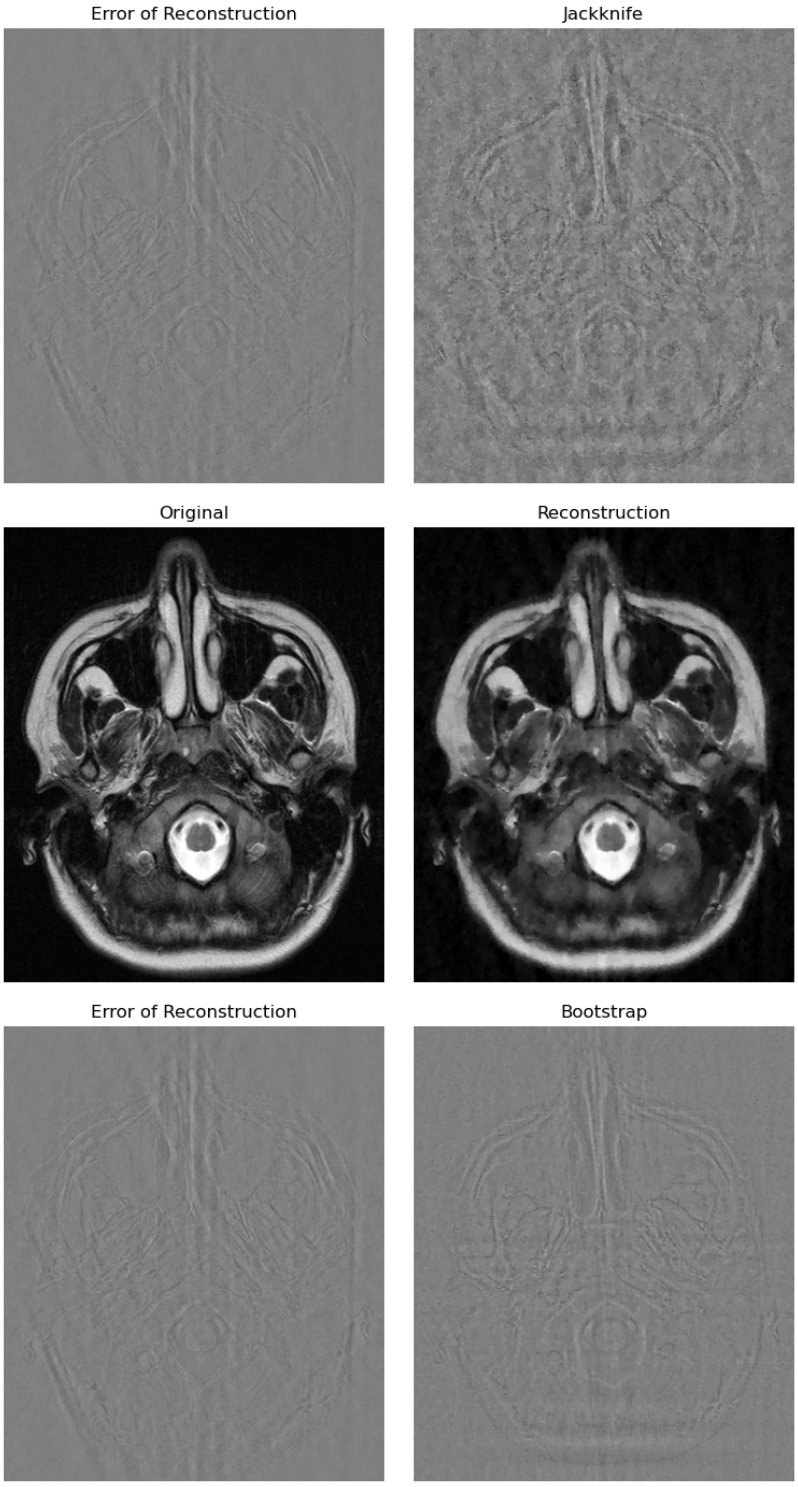


Figure 1: Radially retained sampling — slice 1

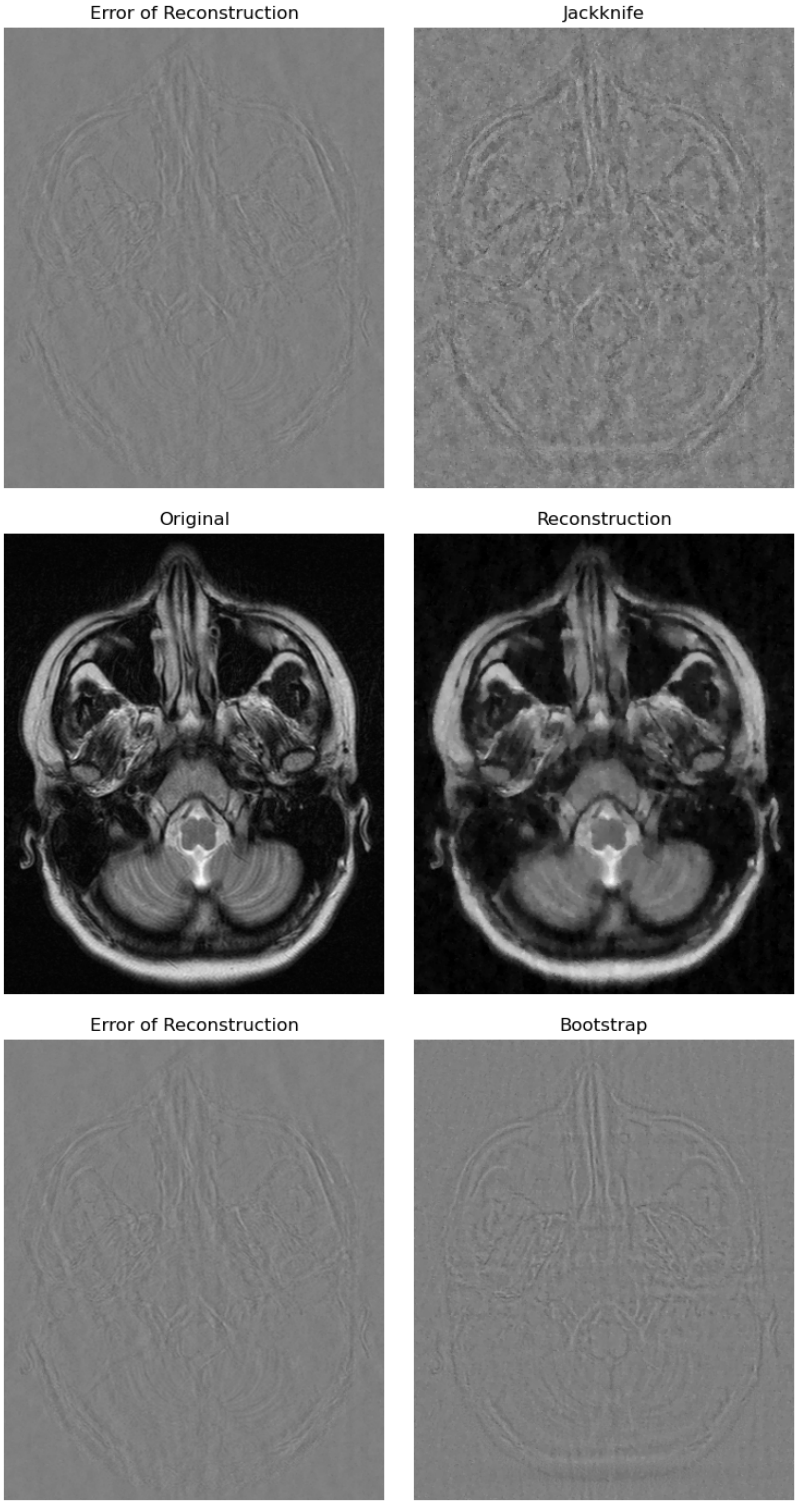


Figure 2: Radially retained sampling — slice 2

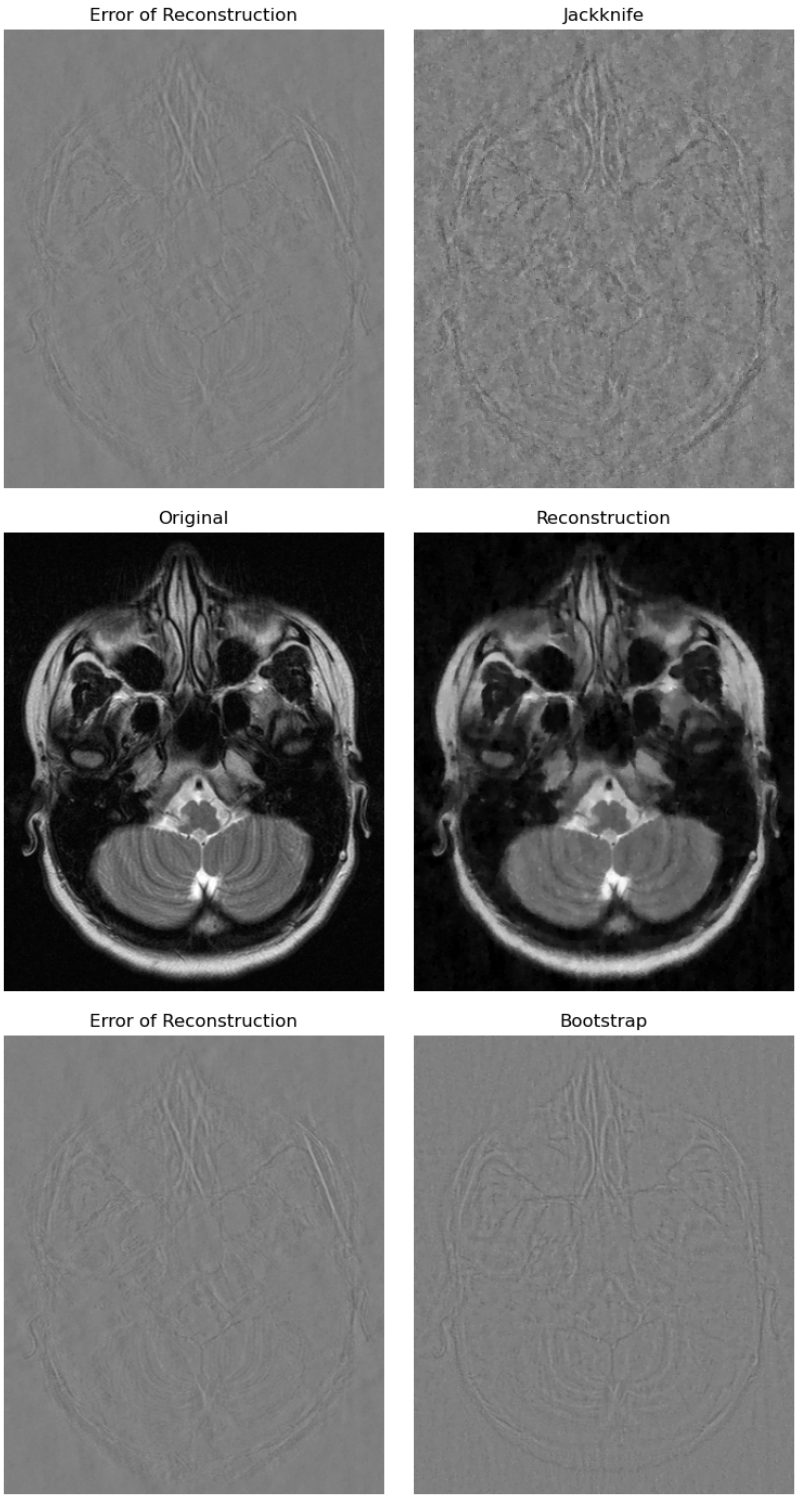


Figure 3: Radially retained sampling — slice 3

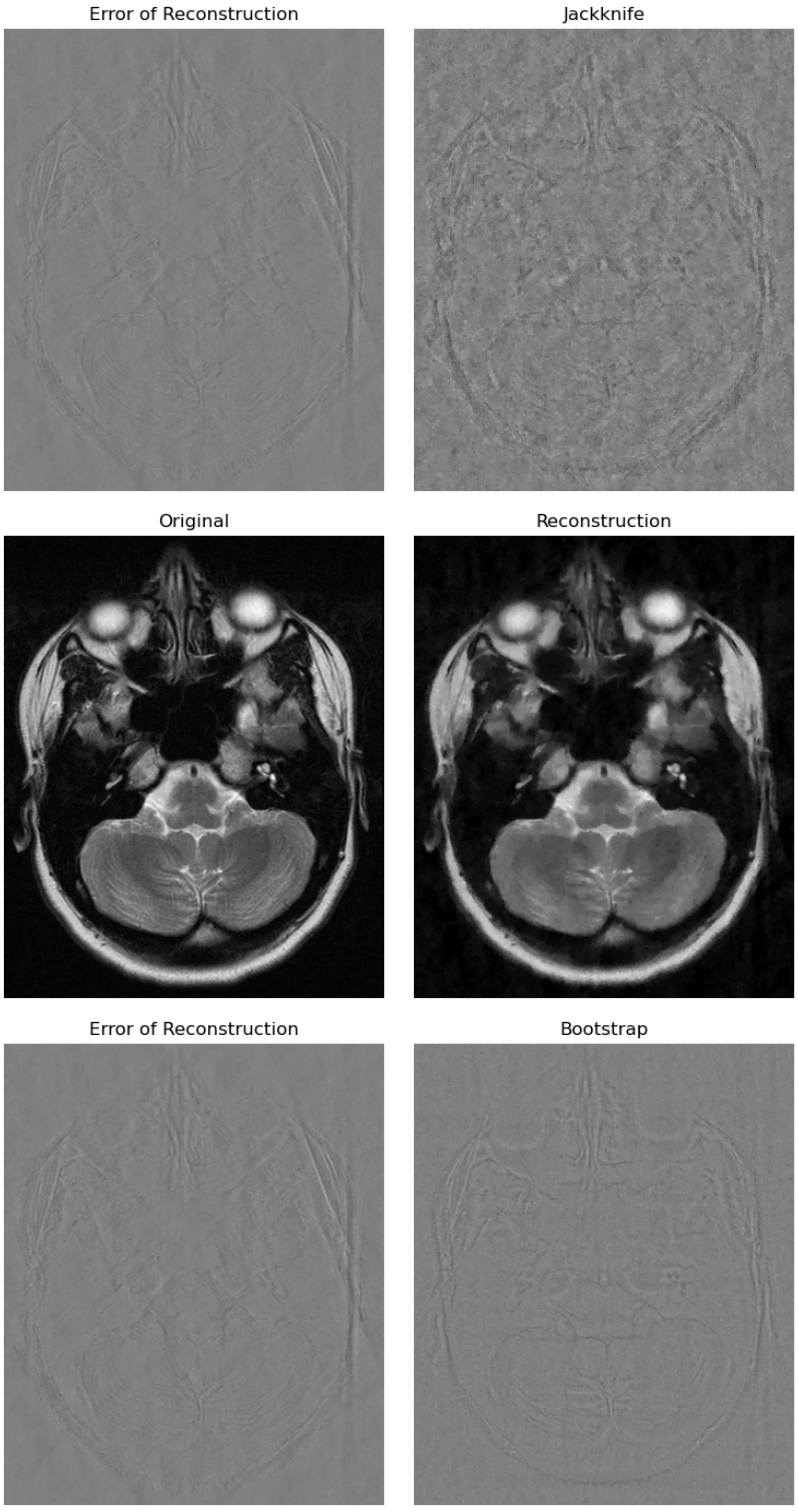


Figure 4: Radially retained sampling — slice 4

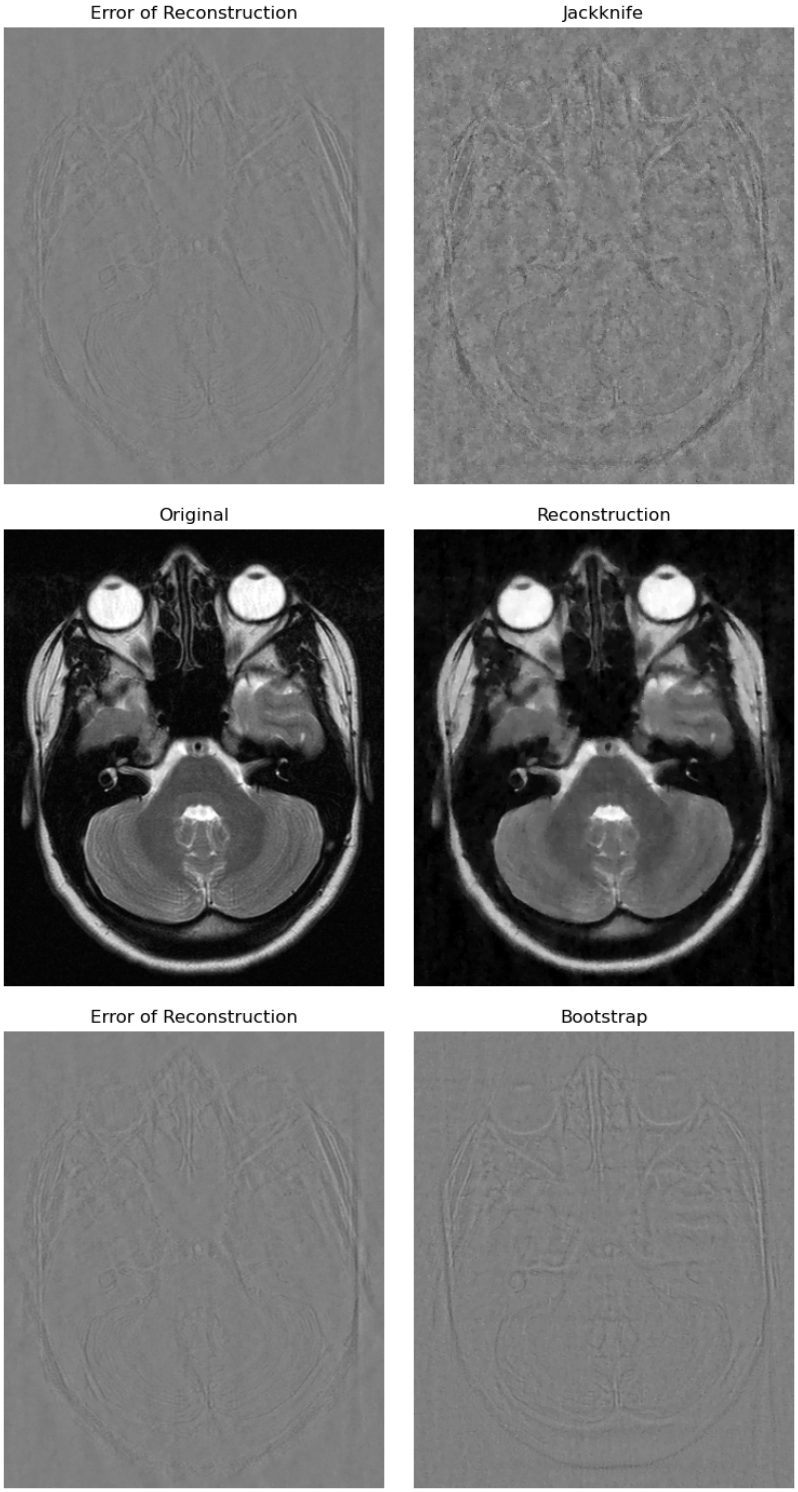


Figure 5: Radially retained sampling — slice 5

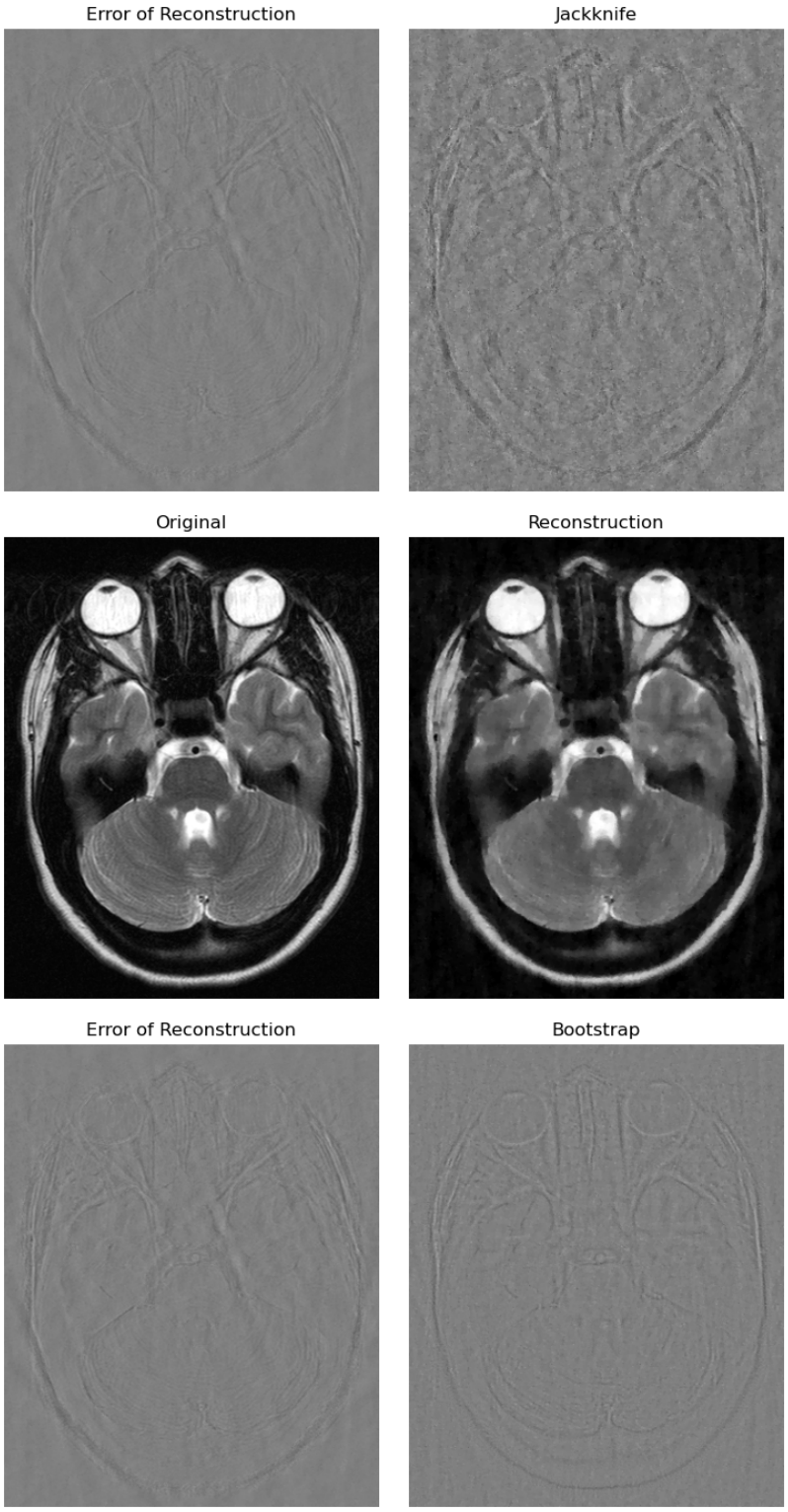


Figure 6: Radially retained sampling — slice 6

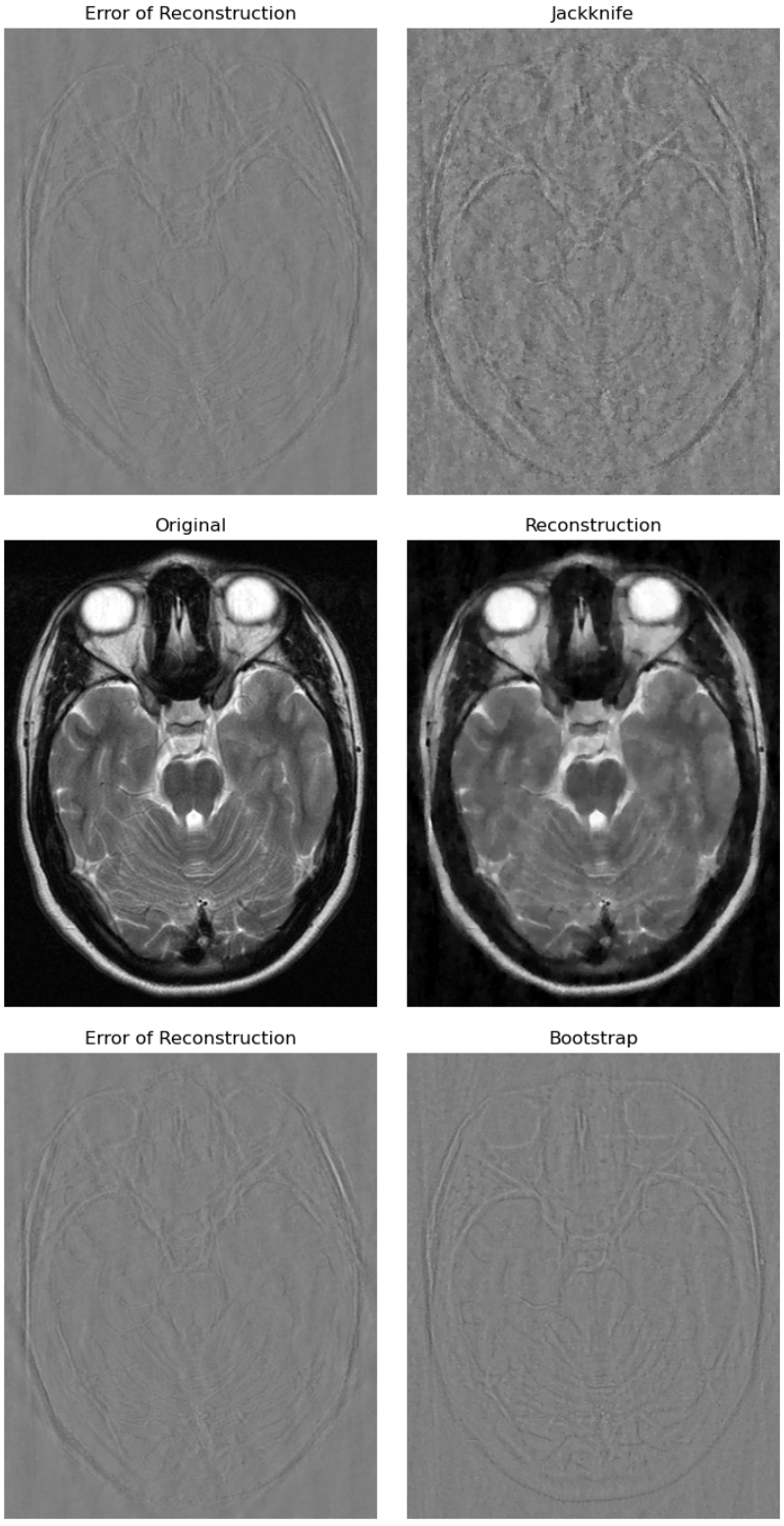


Figure 7: Radially retained sampling — slice 7

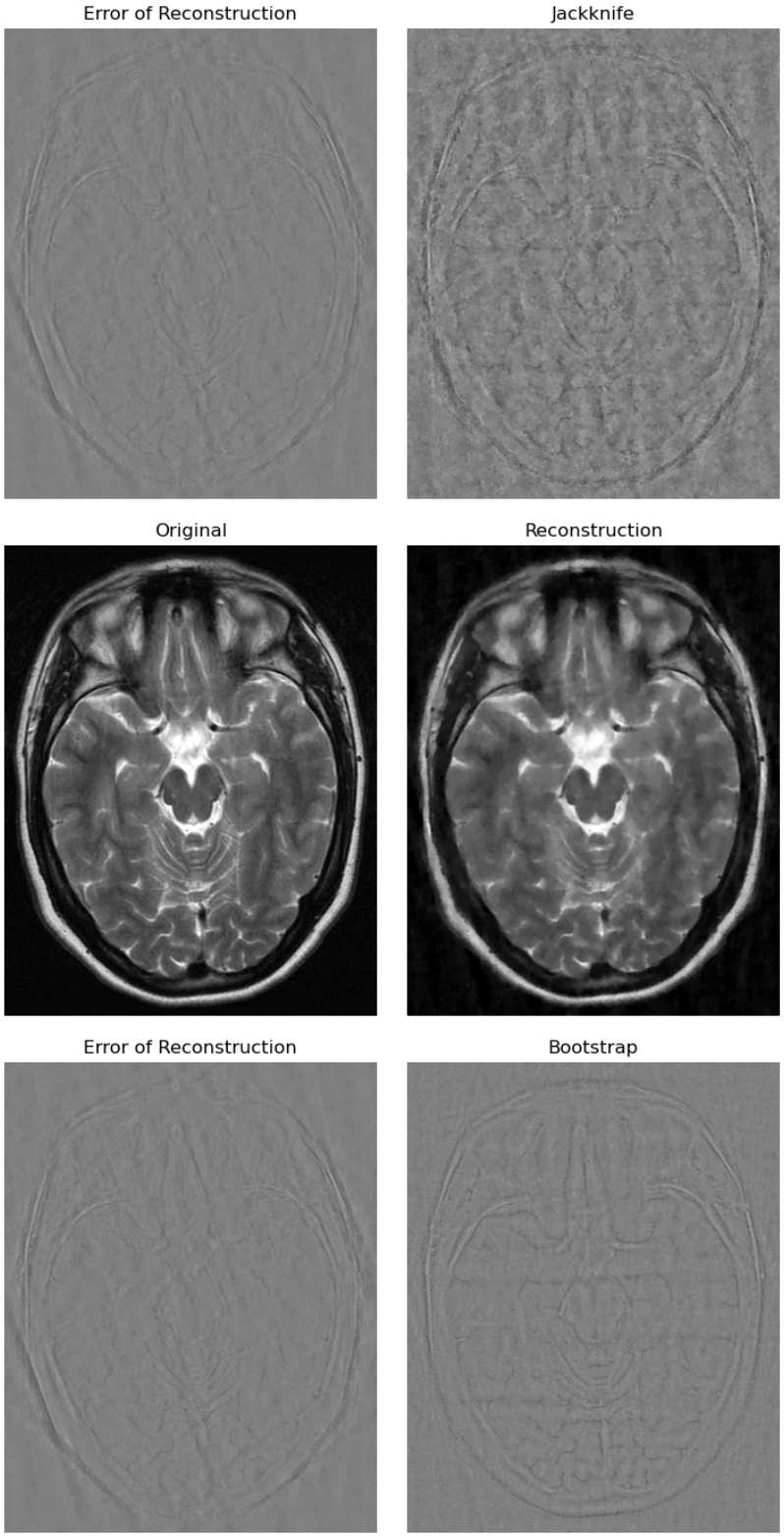


Figure 8: Radially retained sampling — slice 8

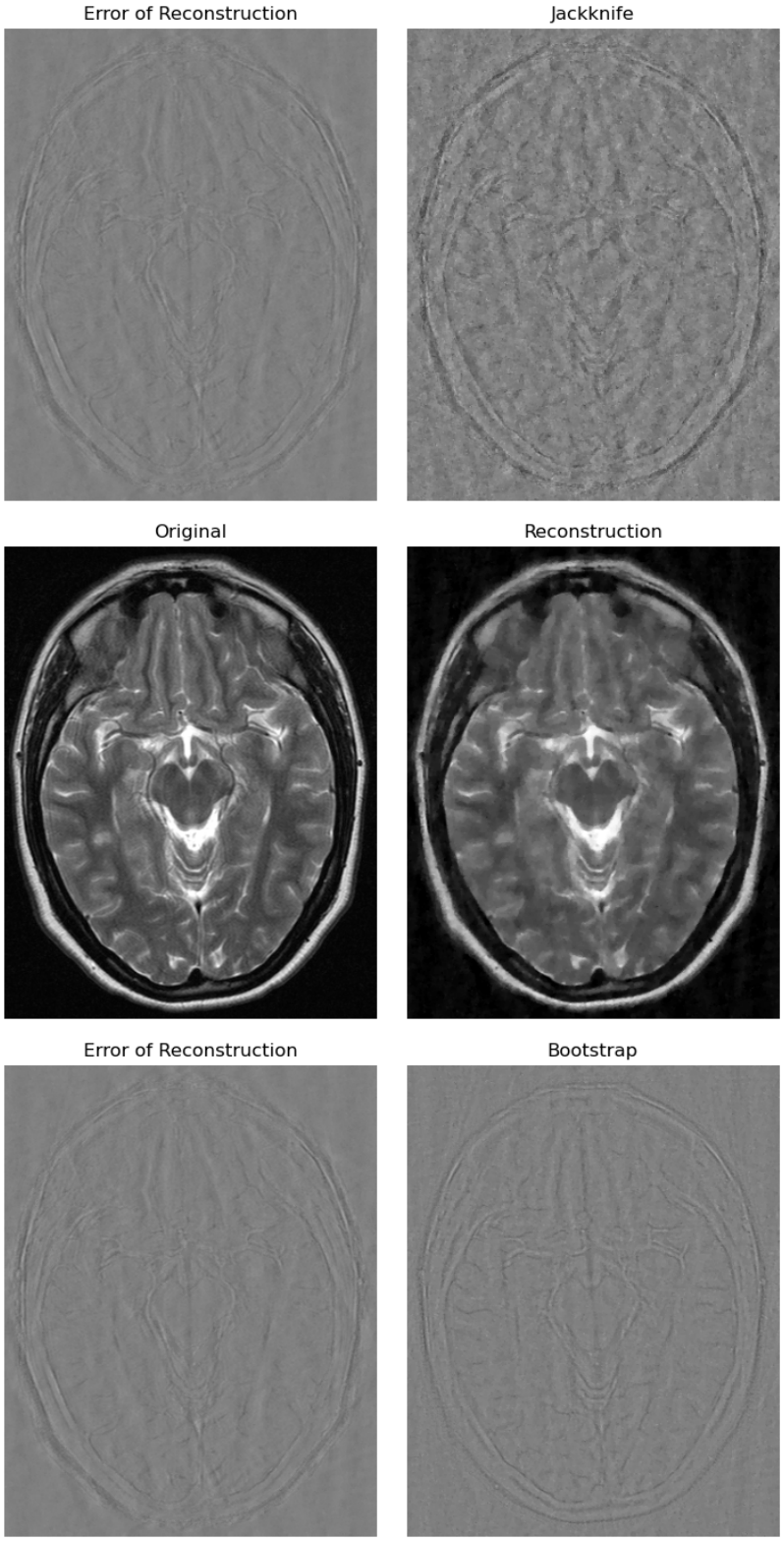


Figure 9: Radially retained sampling — slice 9

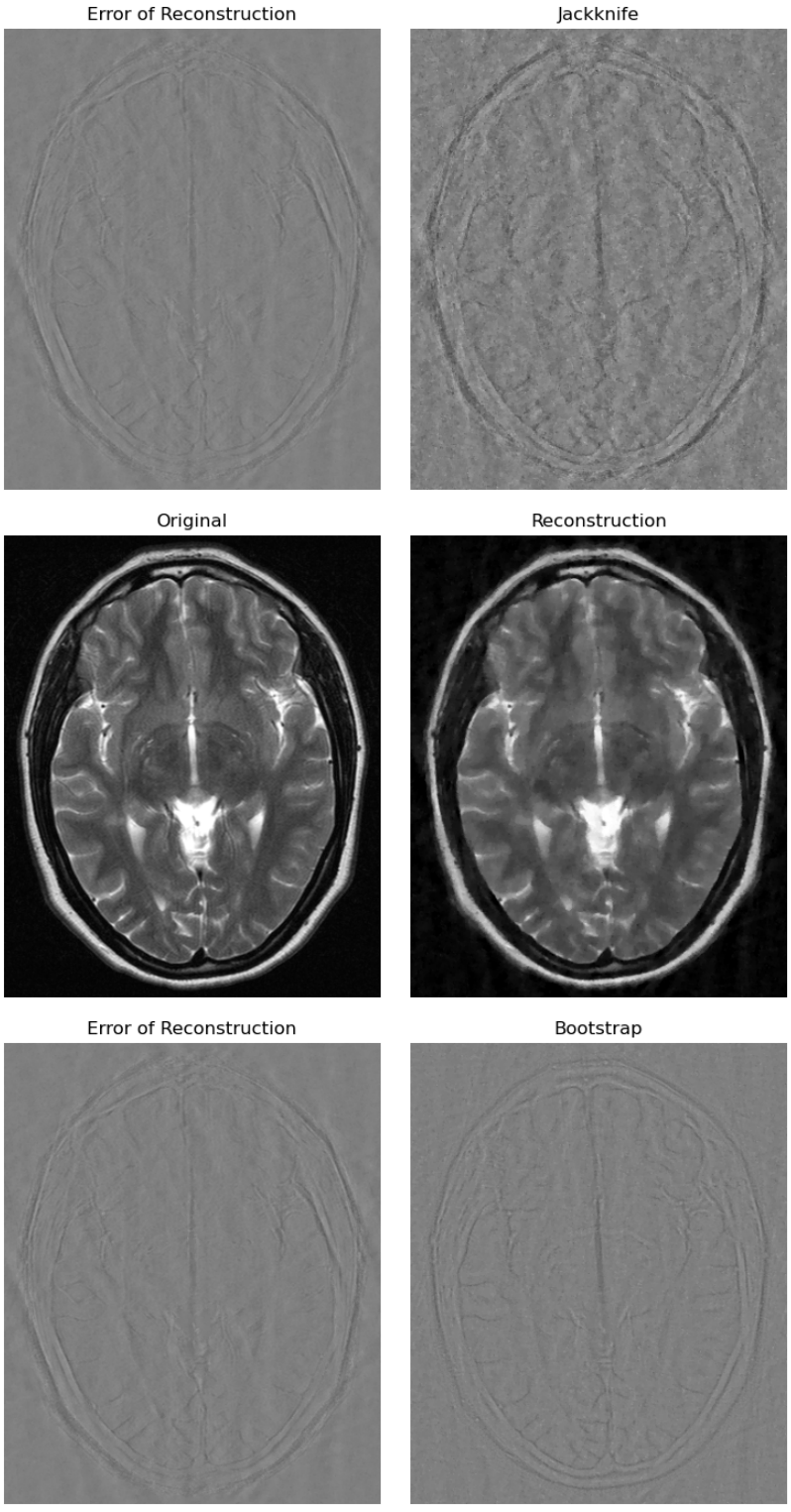


Figure 10: Radially retained sampling — slice 10

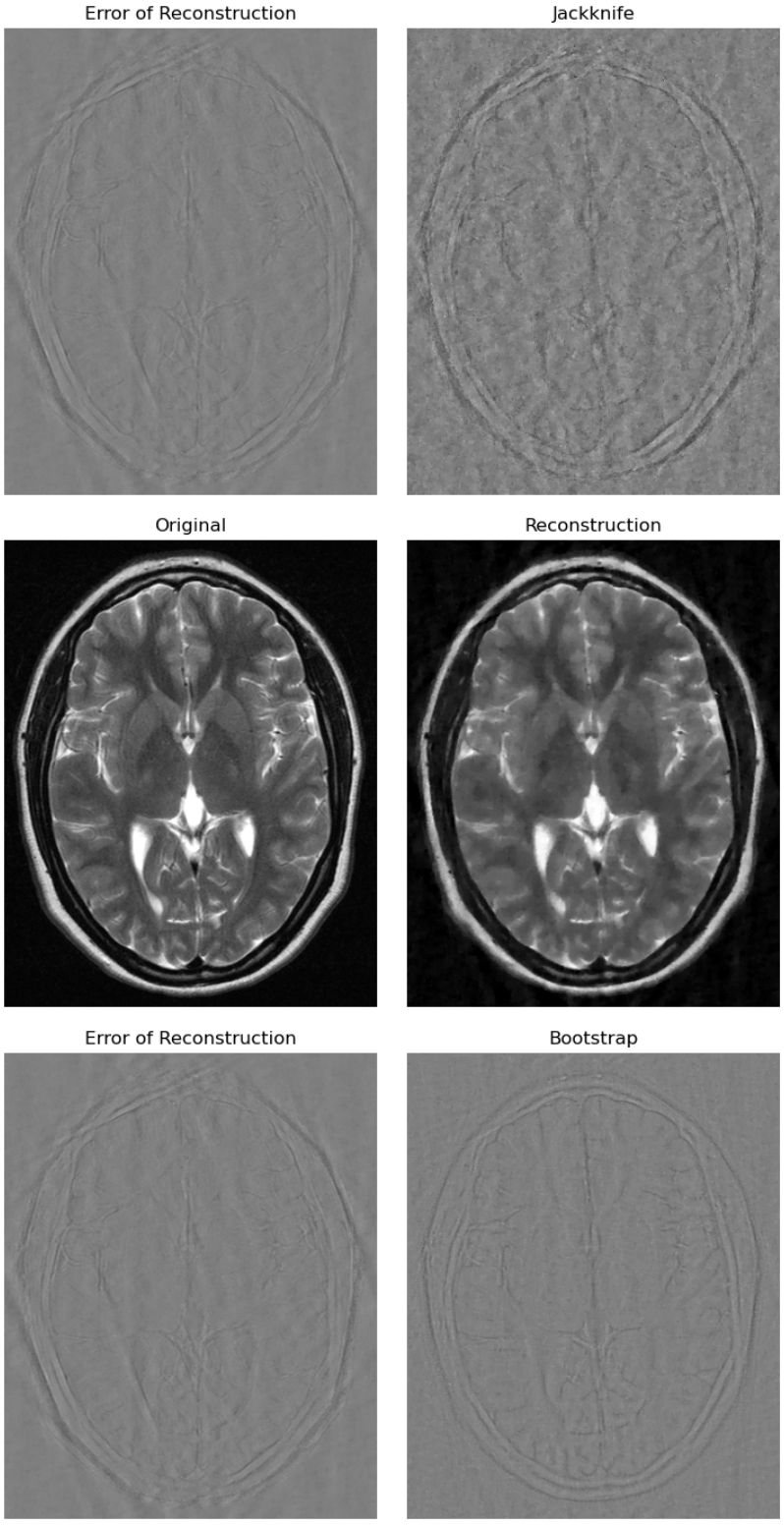


Figure 11: Radially retained sampling — slice 11

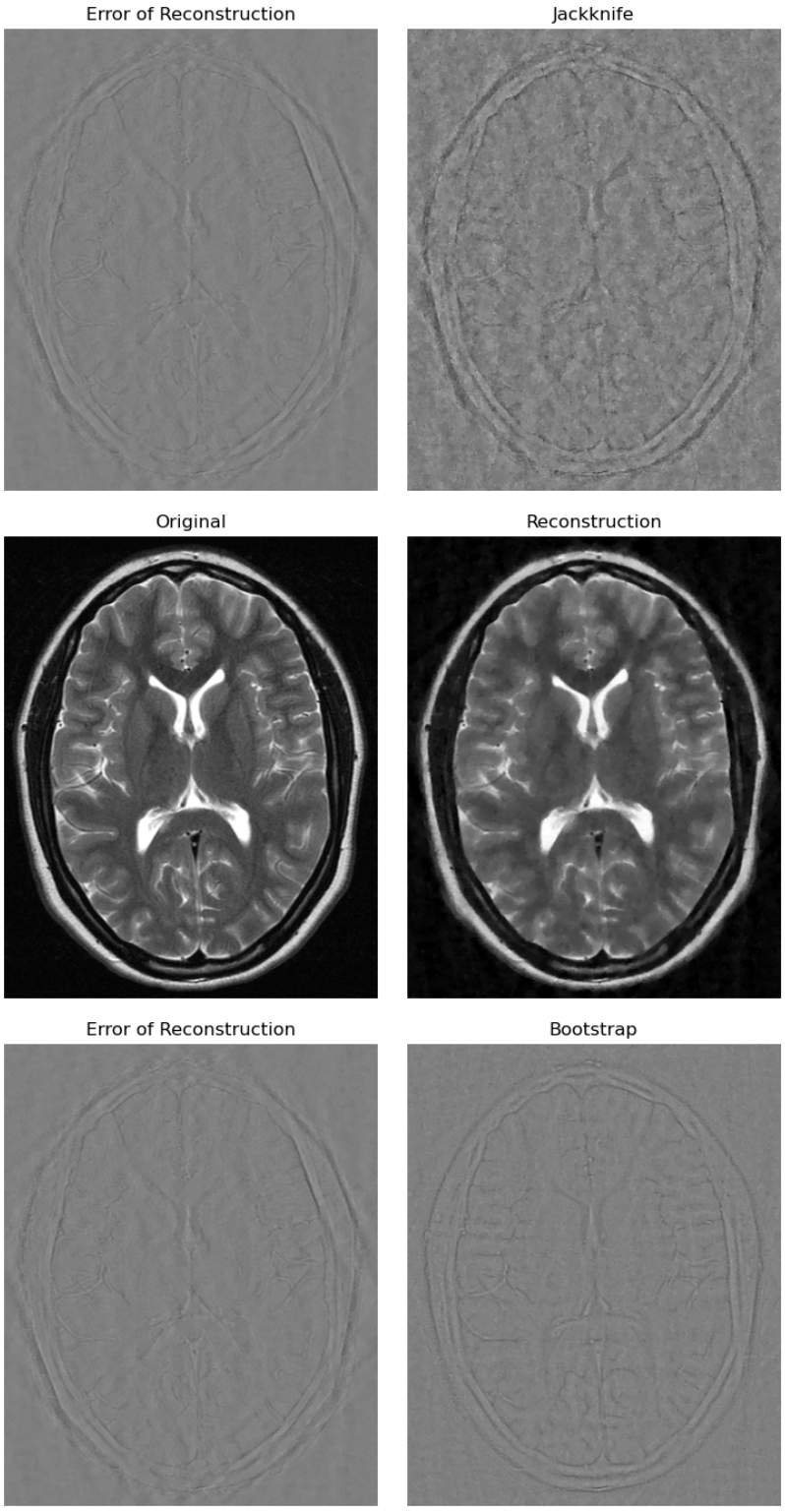


Figure 12: Radially retained sampling — slice 12

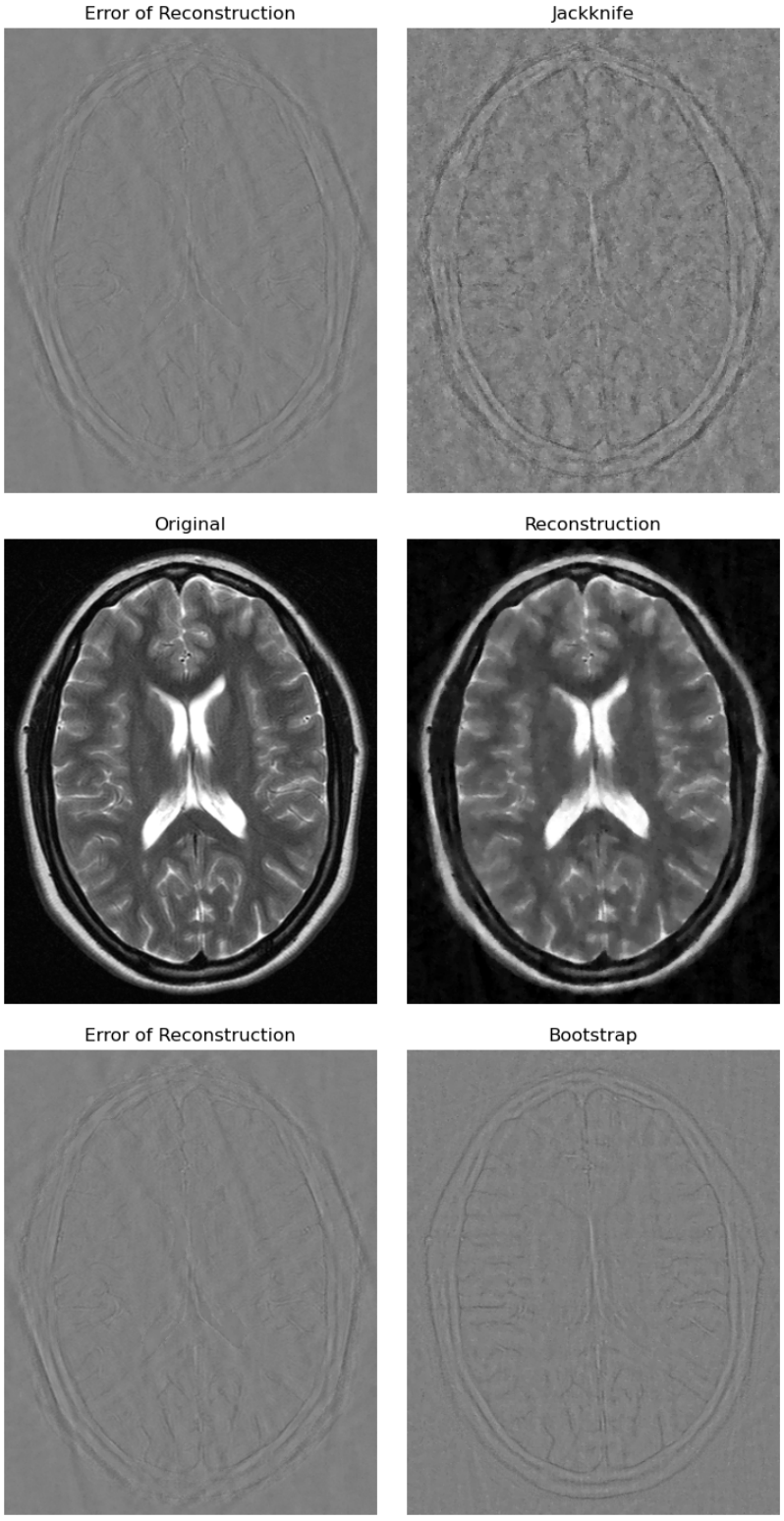


Figure 13: Radially retained sampling — slice 13

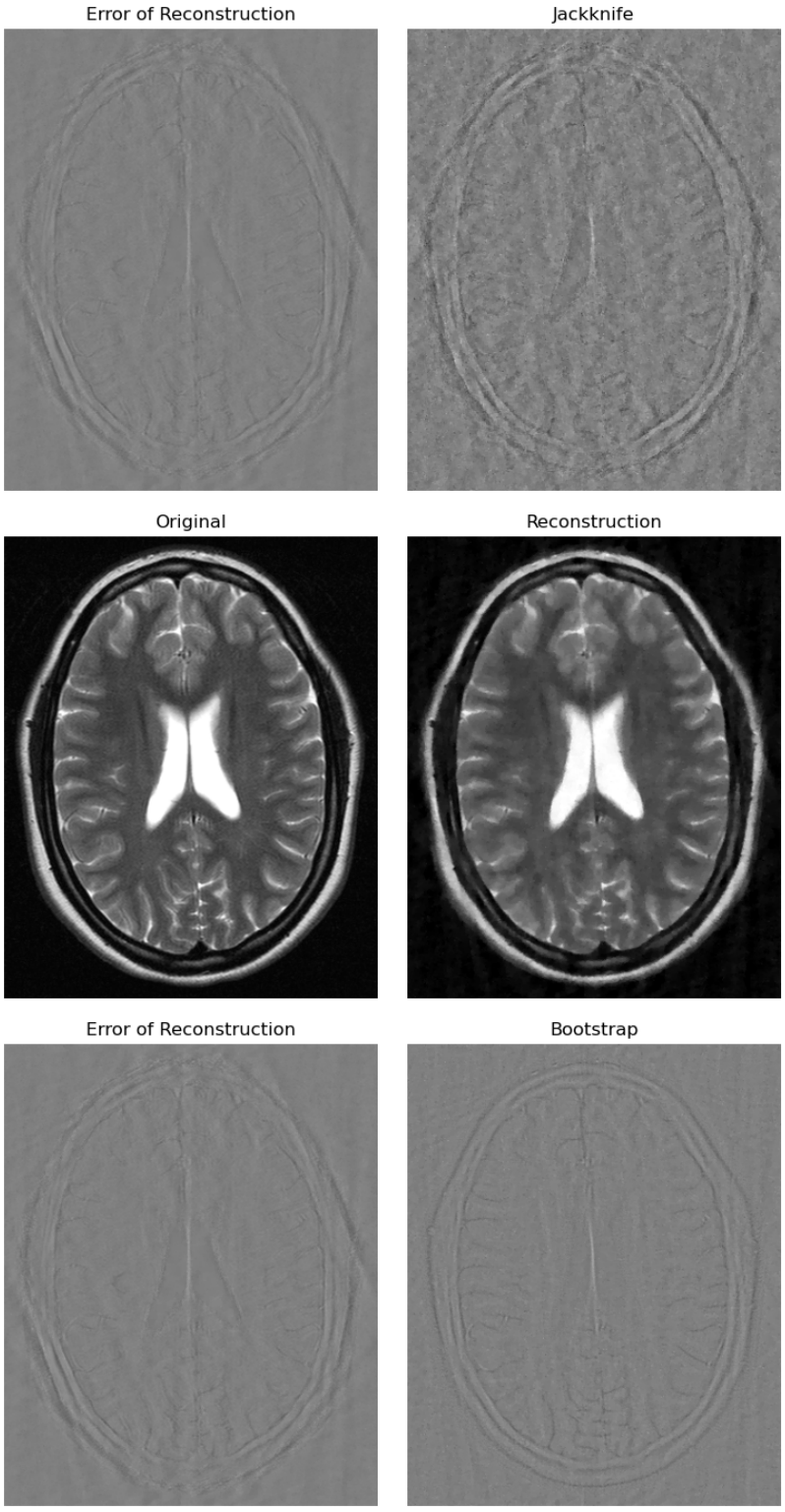


Figure 14: Radially retained sampling — slice 14

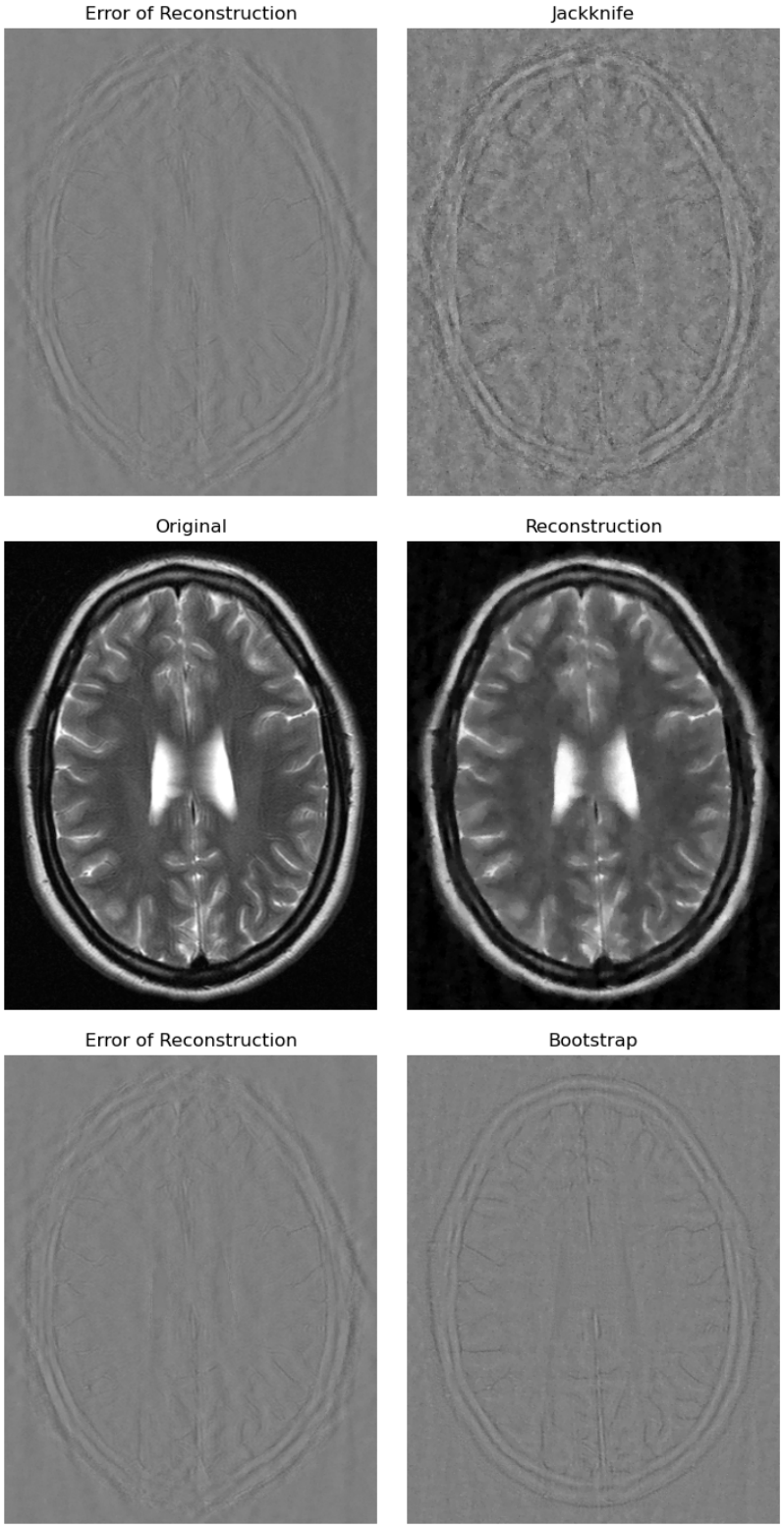


Figure 15: Radially retained sampling — slice 15

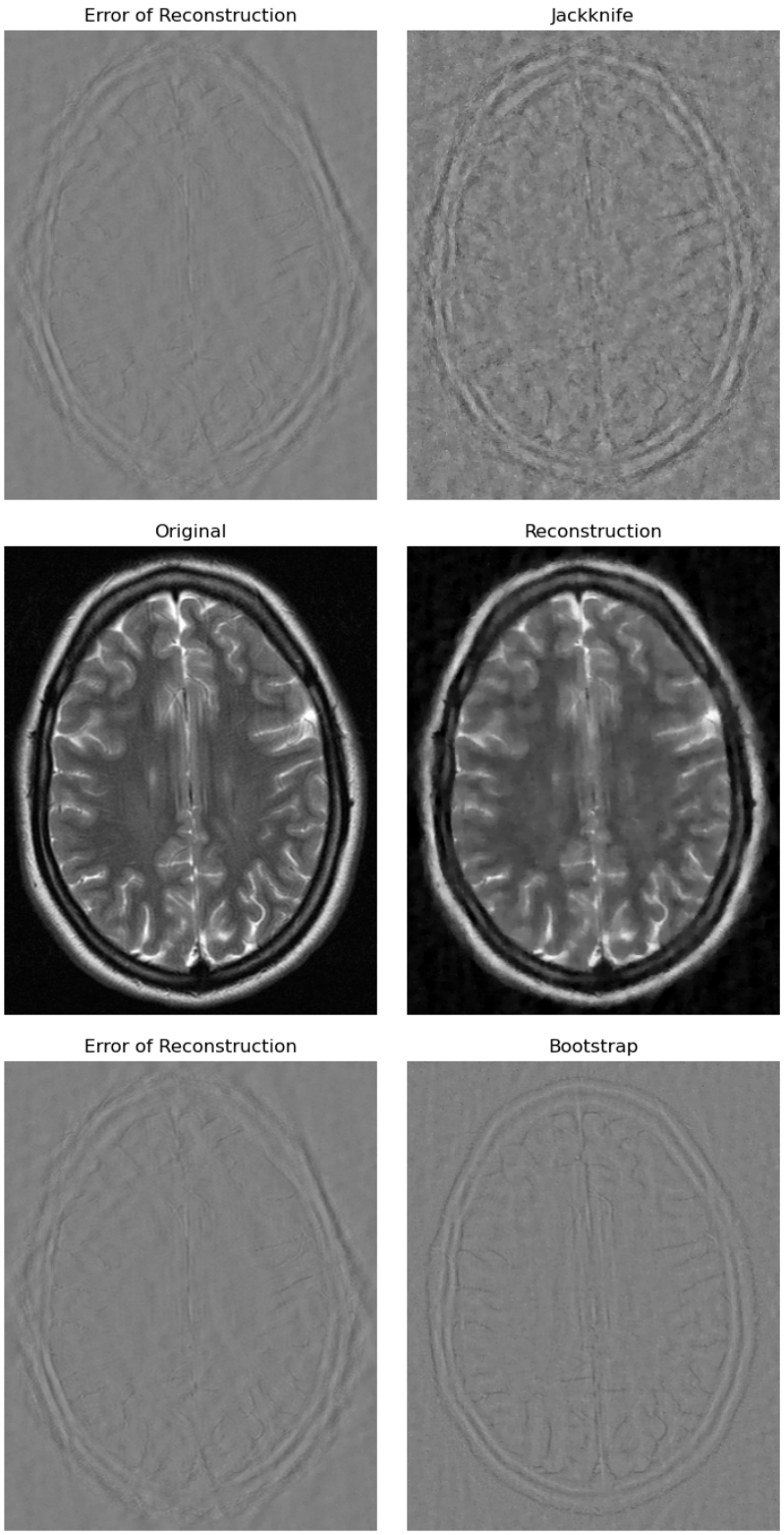


Figure 16: Radially retained sampling — slice 16

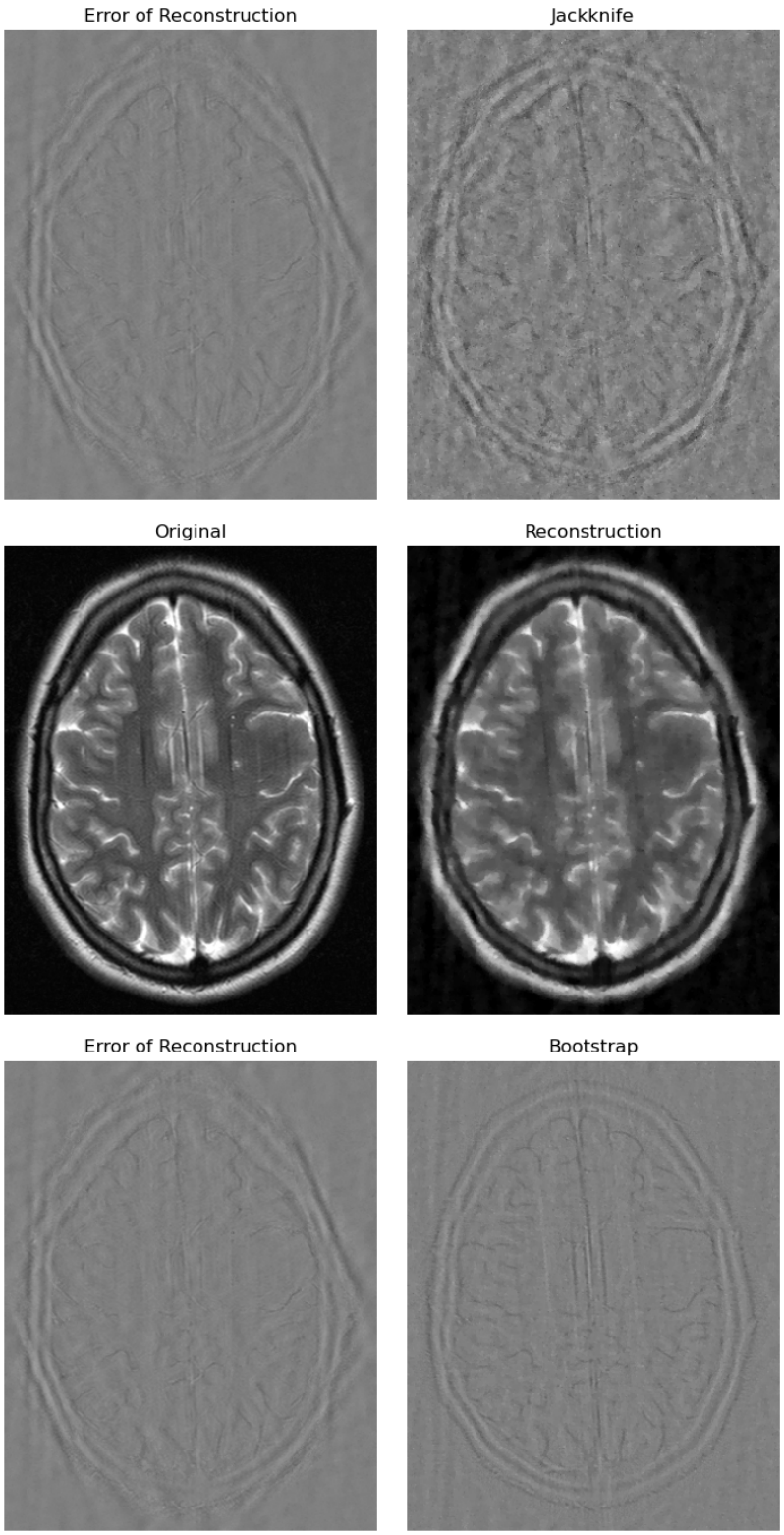


Figure 17: Radially retained sampling — slice 17

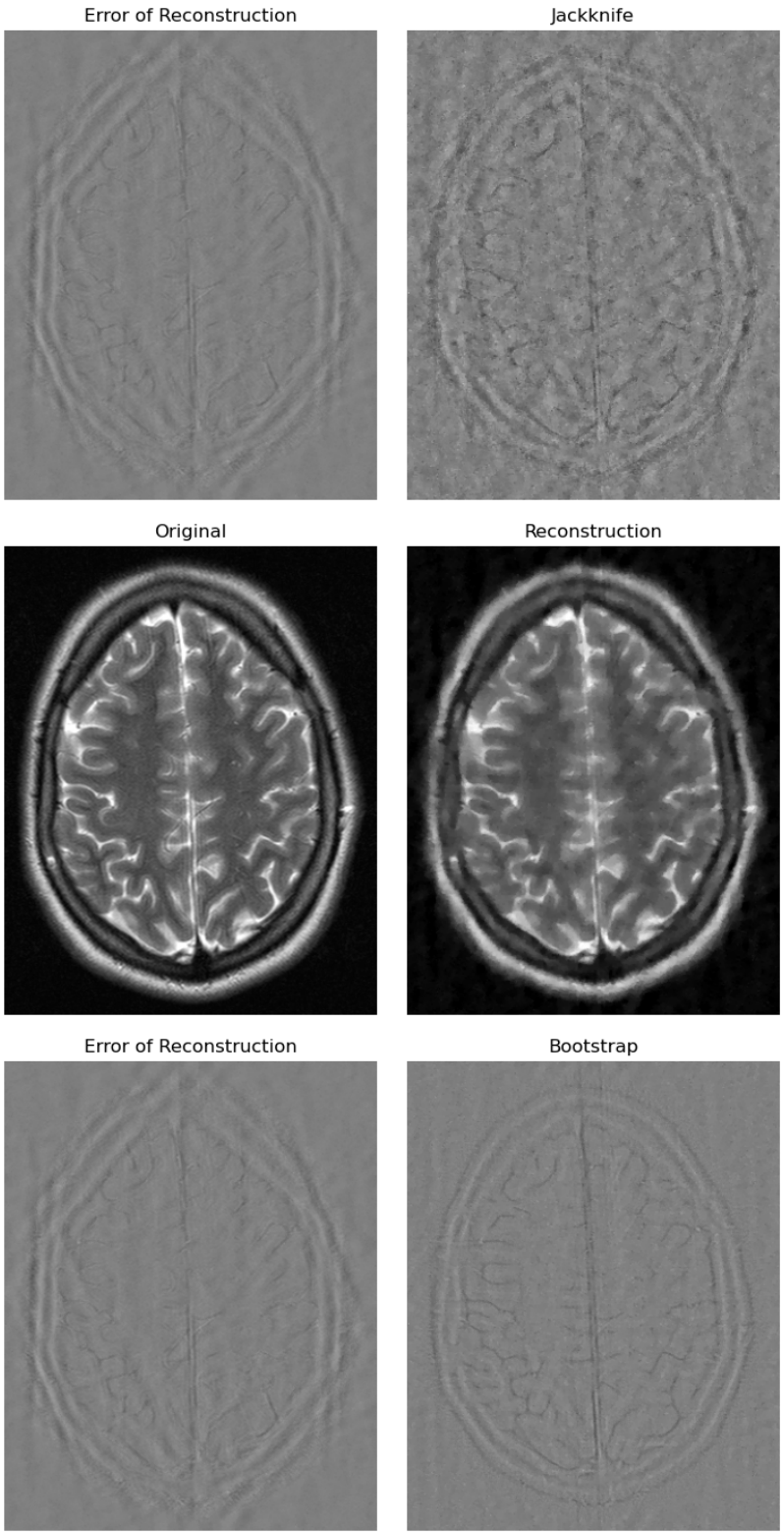


Figure 18: Radially retained sampling — slice 18

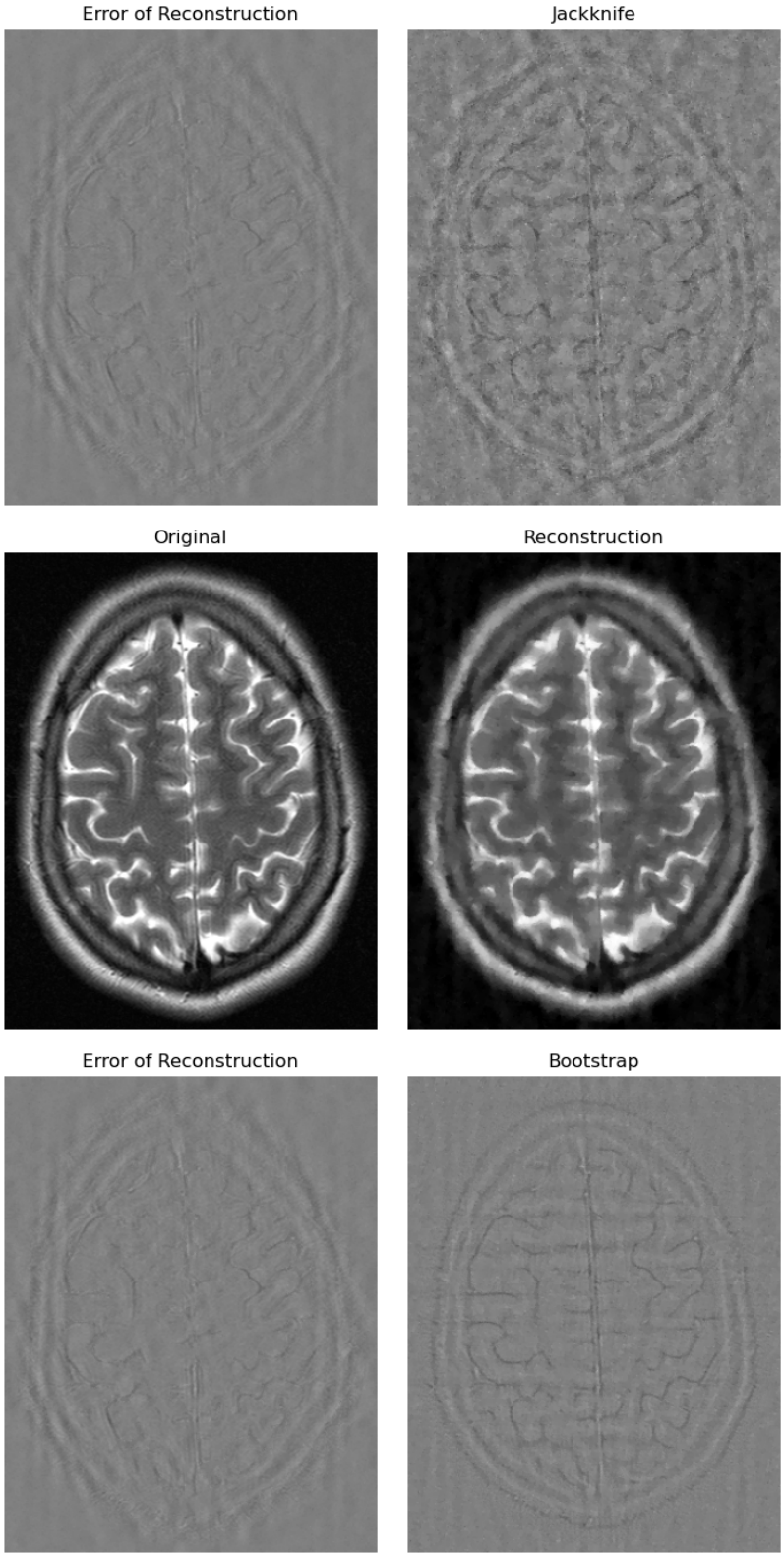


Figure 19: Radially retained sampling — slice 19

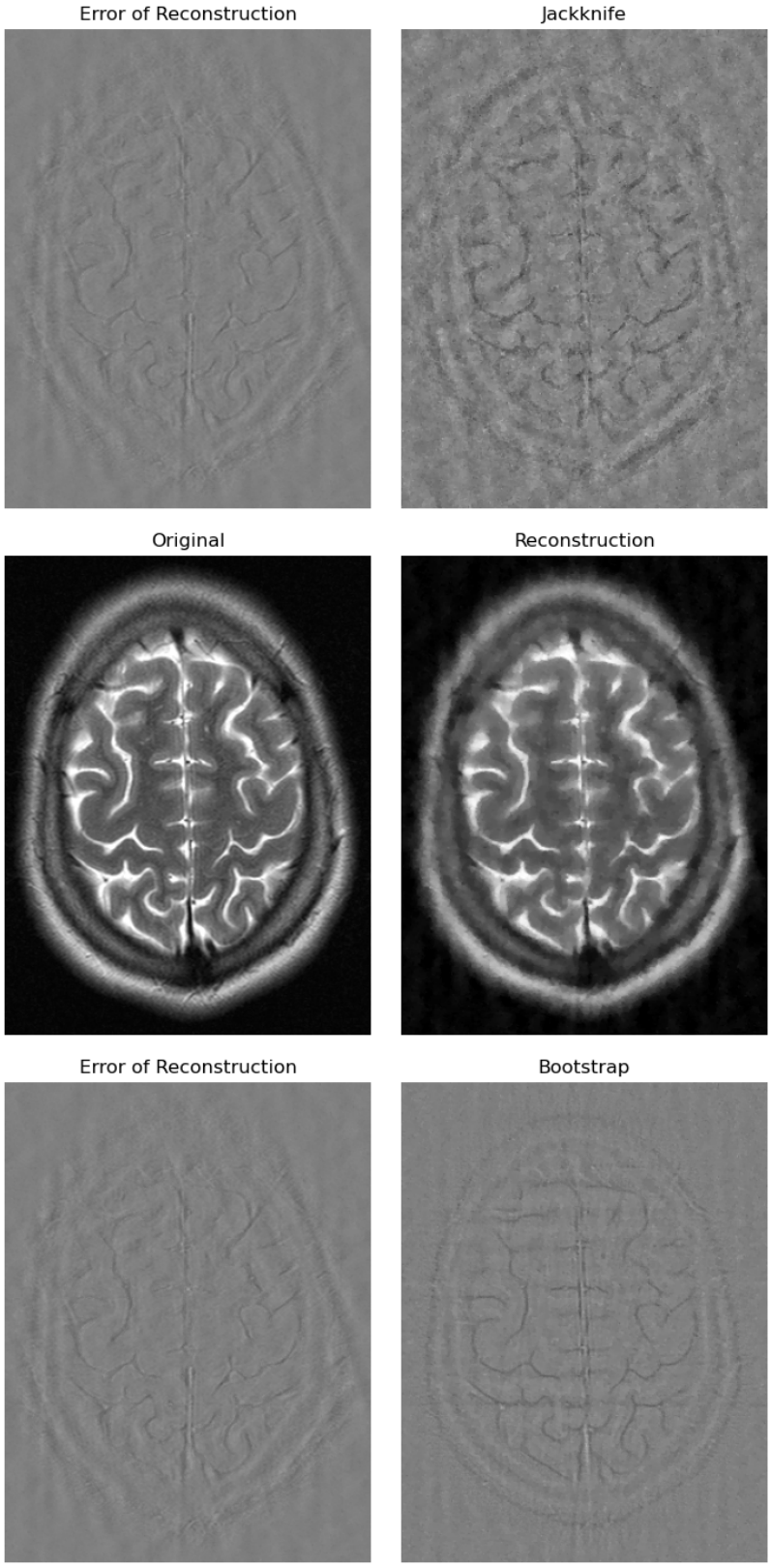


Figure 20: Radially retained sampling — slice 20

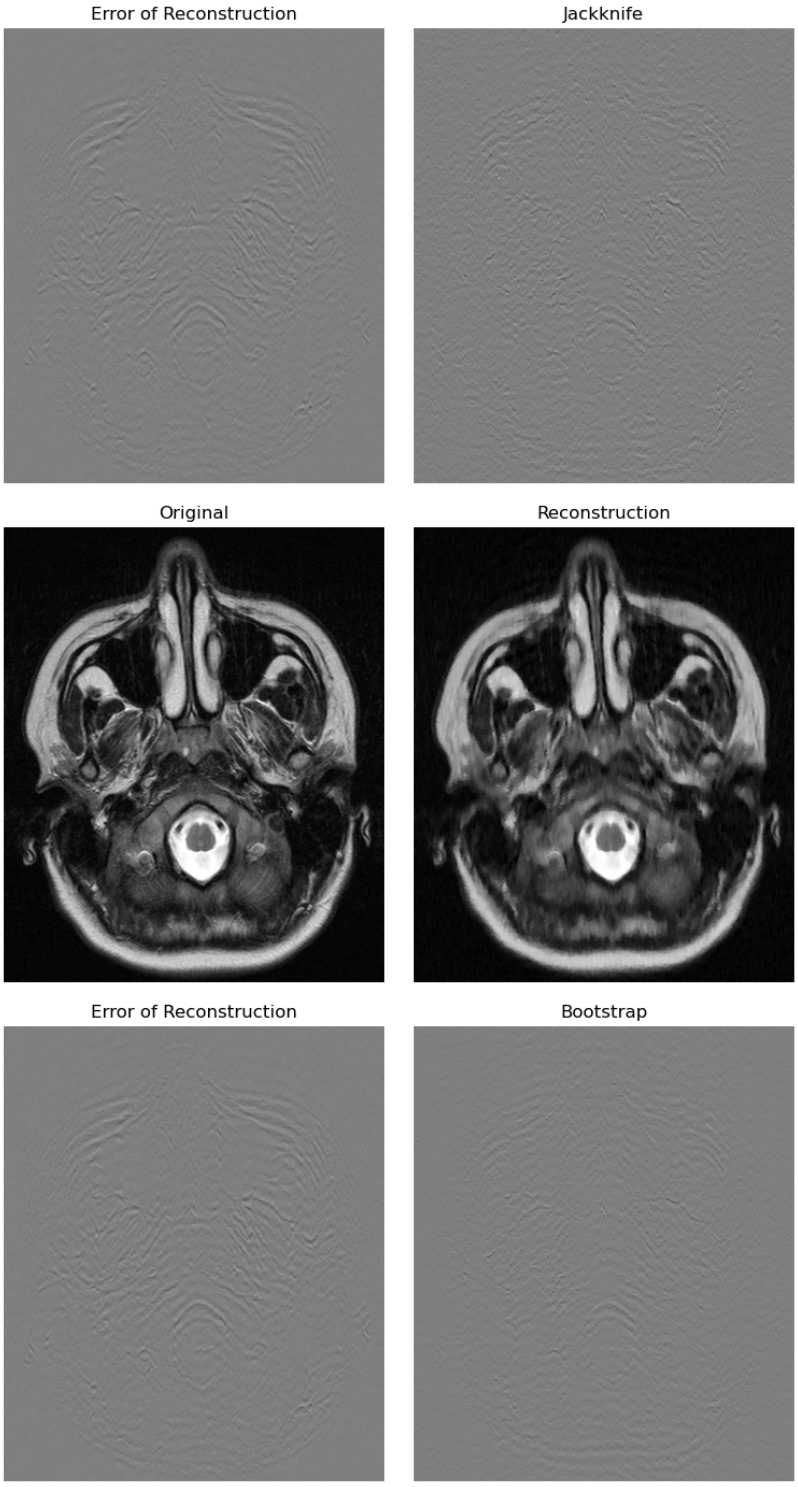


Figure 21: Horizontally retained sampling — slice 1

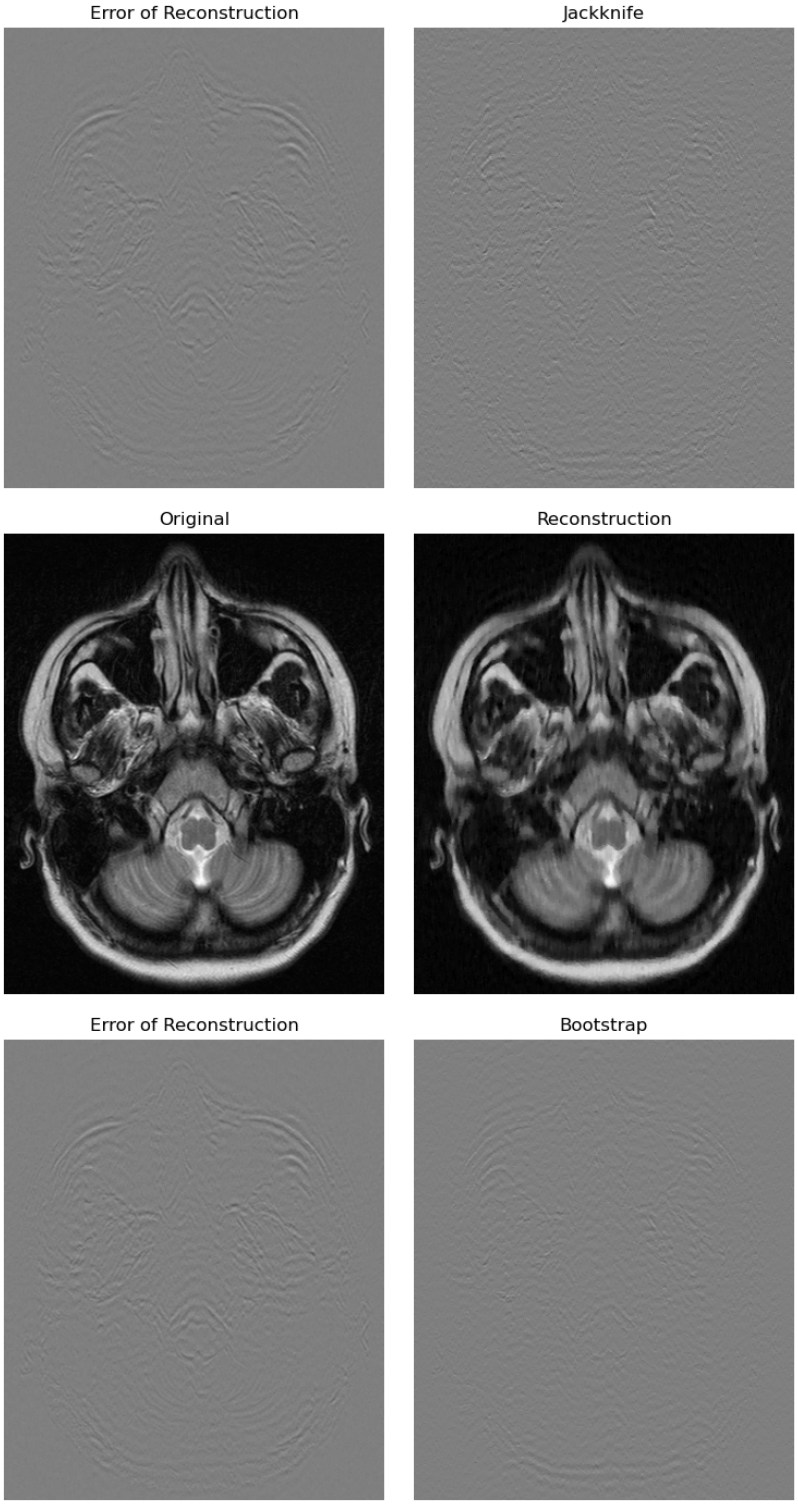


Figure 22: Horizontally retained sampling — slice 2

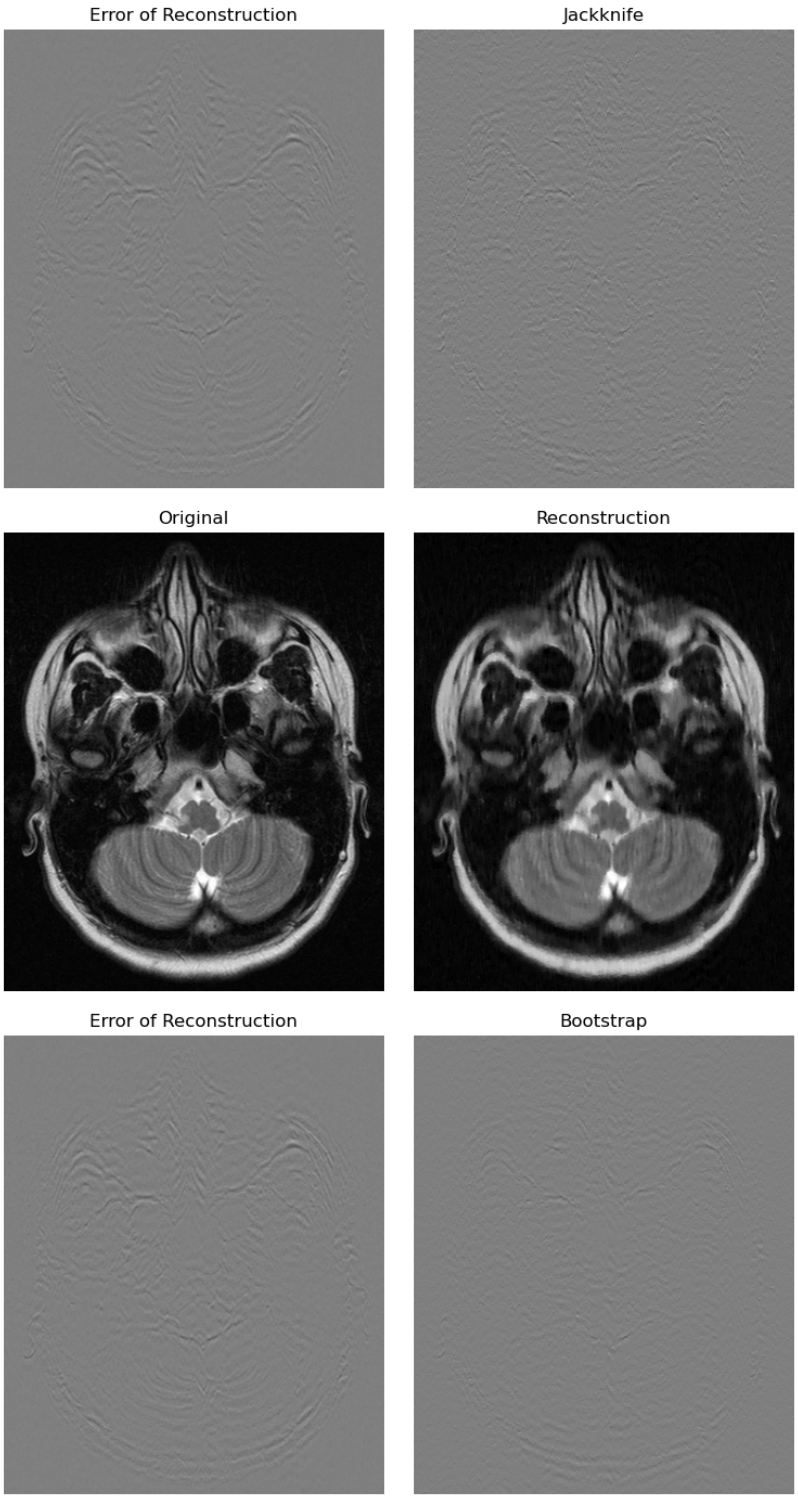


Figure 23: Horizontally retained sampling — slice 3

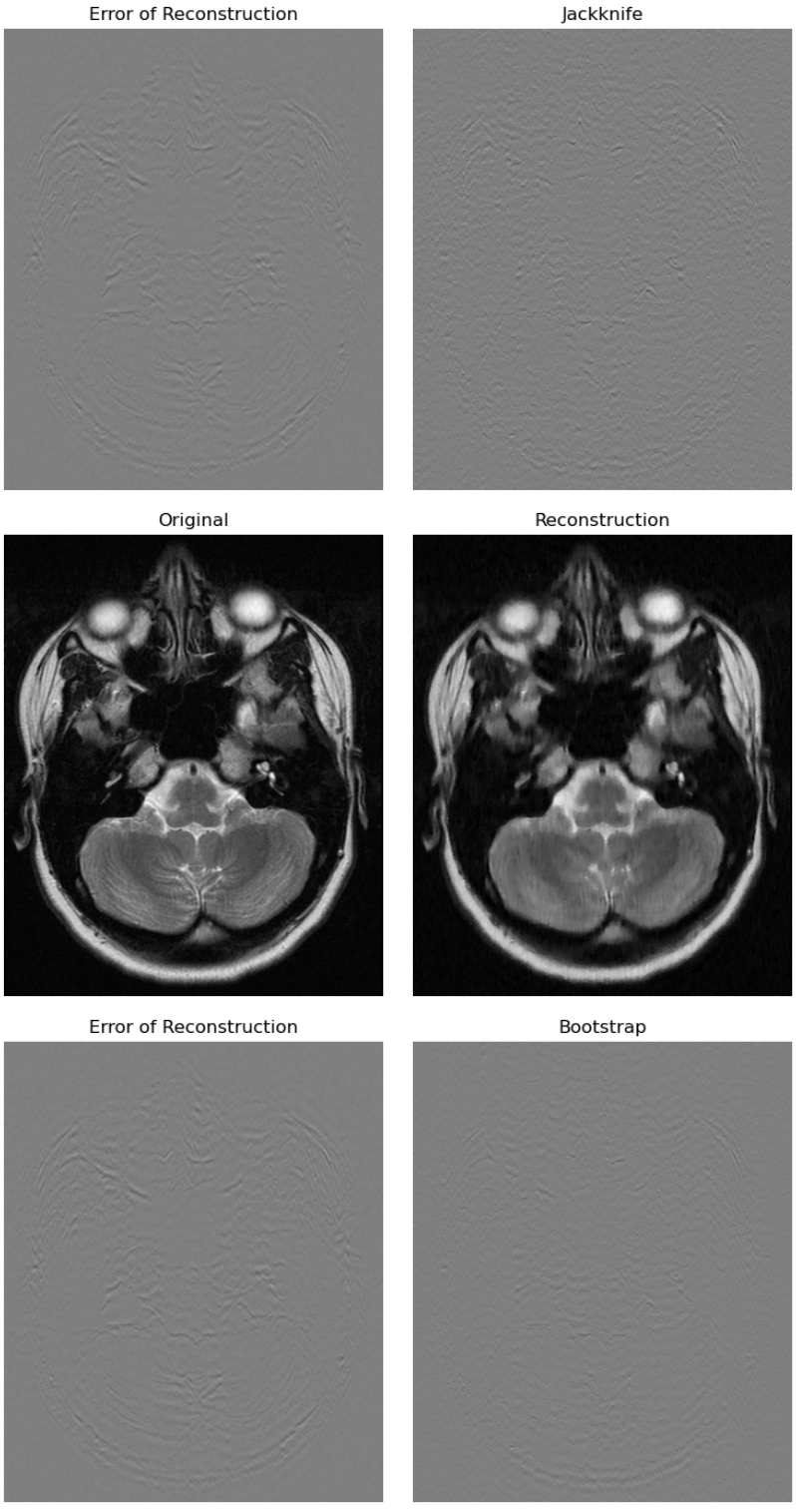


Figure 24: Horizontally retained sampling — slice 4

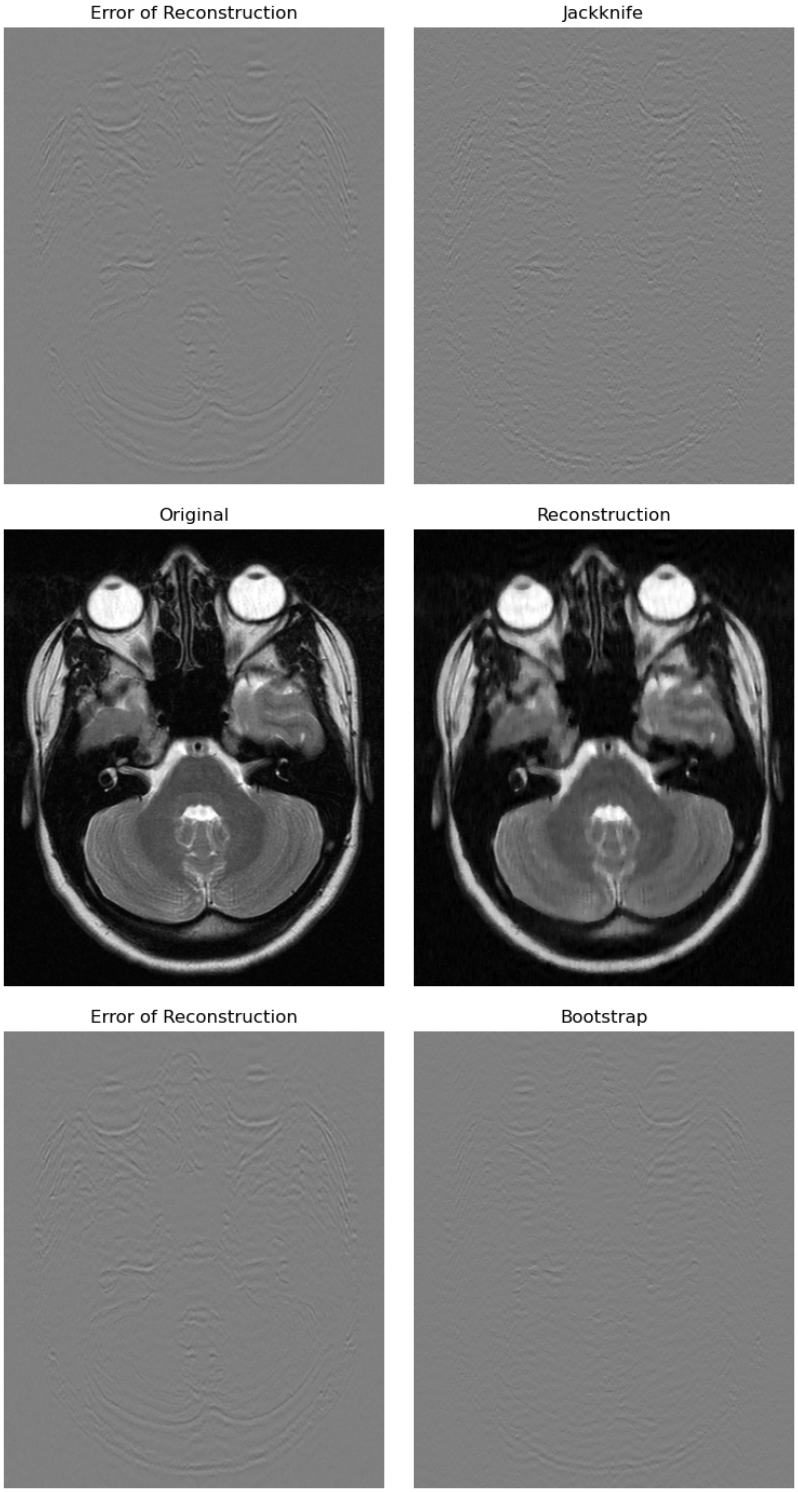


Figure 25: Horizontally retained sampling — slice 5

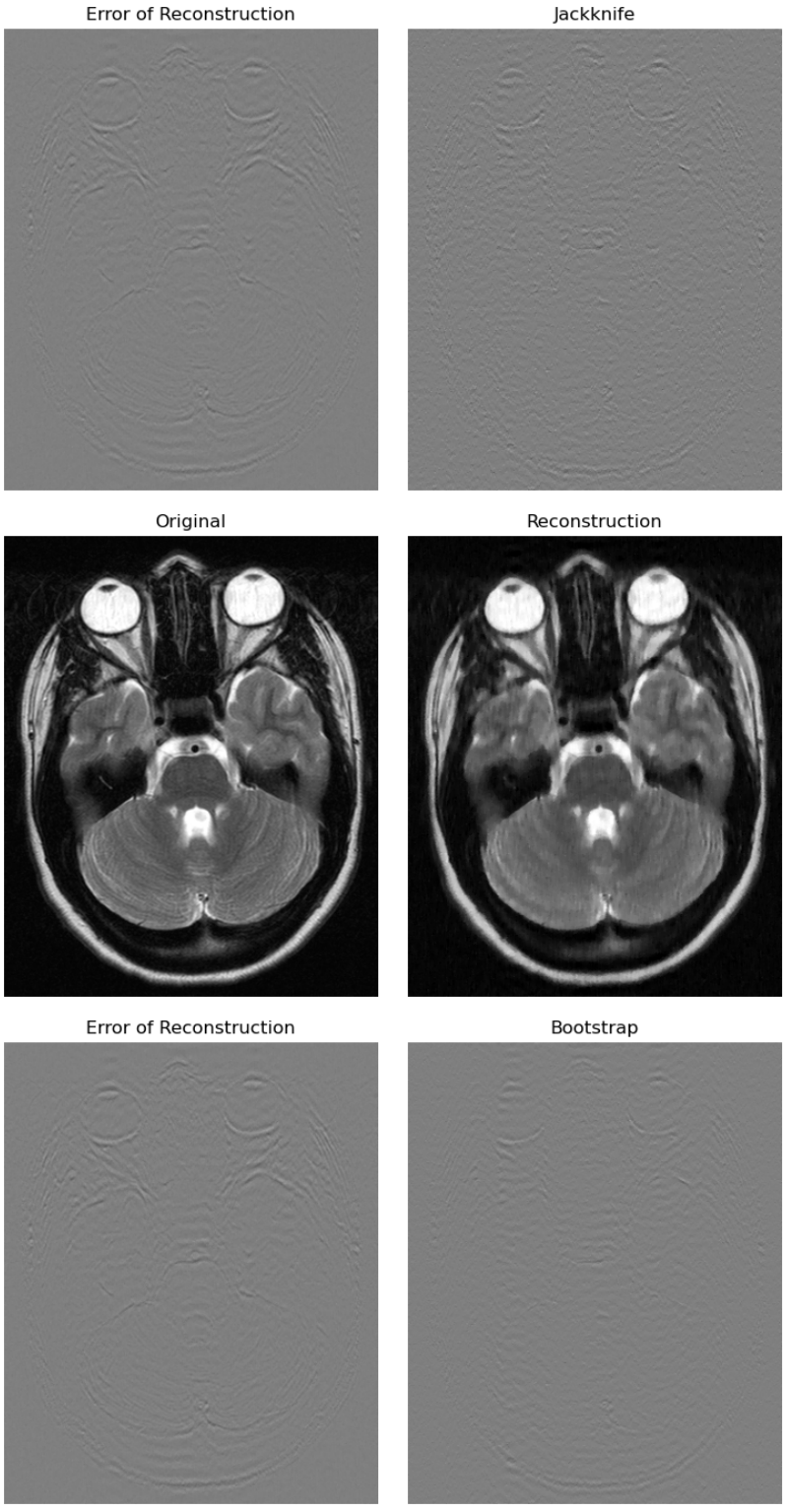


Figure 26: Horizontally retained sampling — slice 6

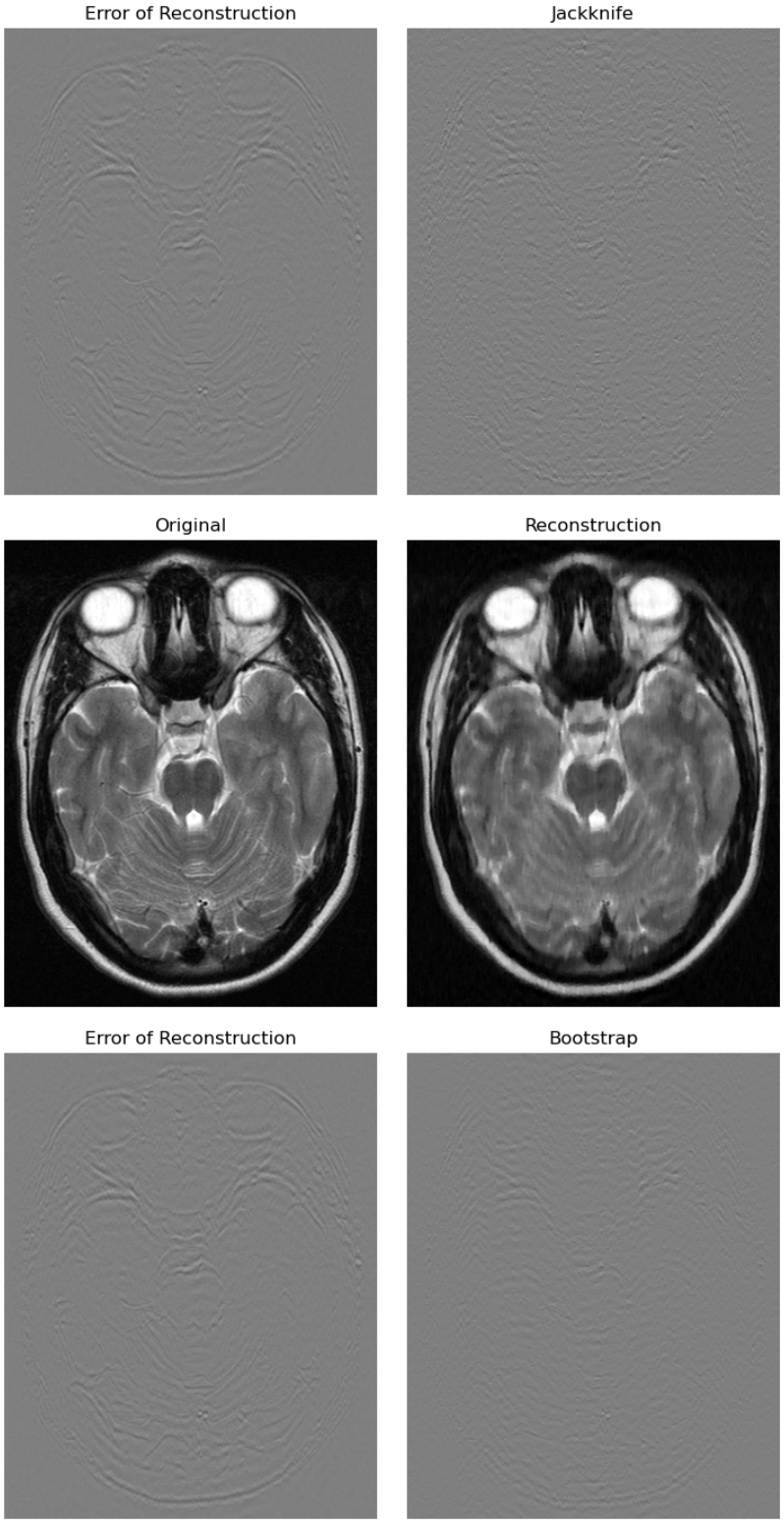


Figure 27: Horizontally retained sampling — slice 7

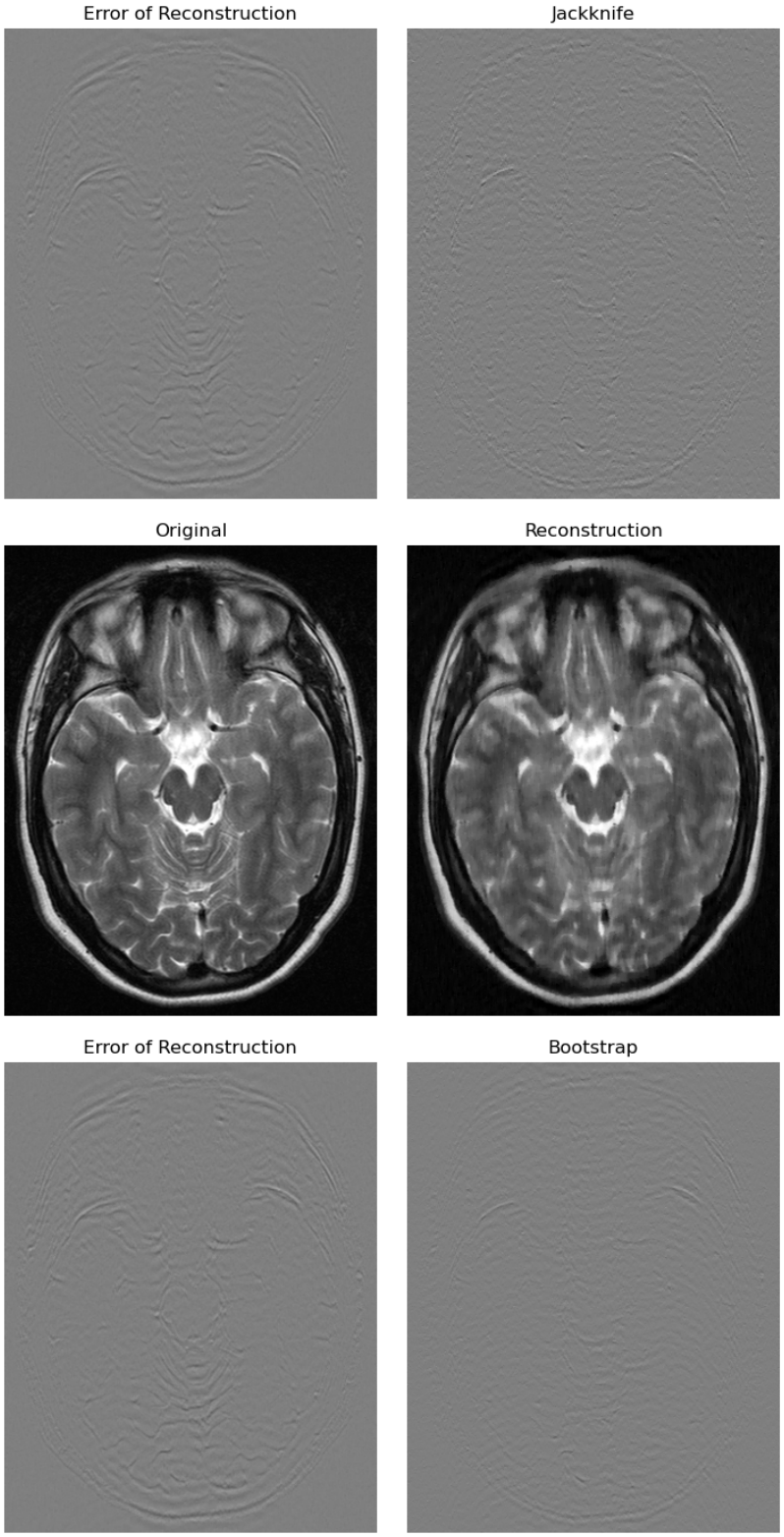


Figure 28: Horizontally retained sampling — slice 8

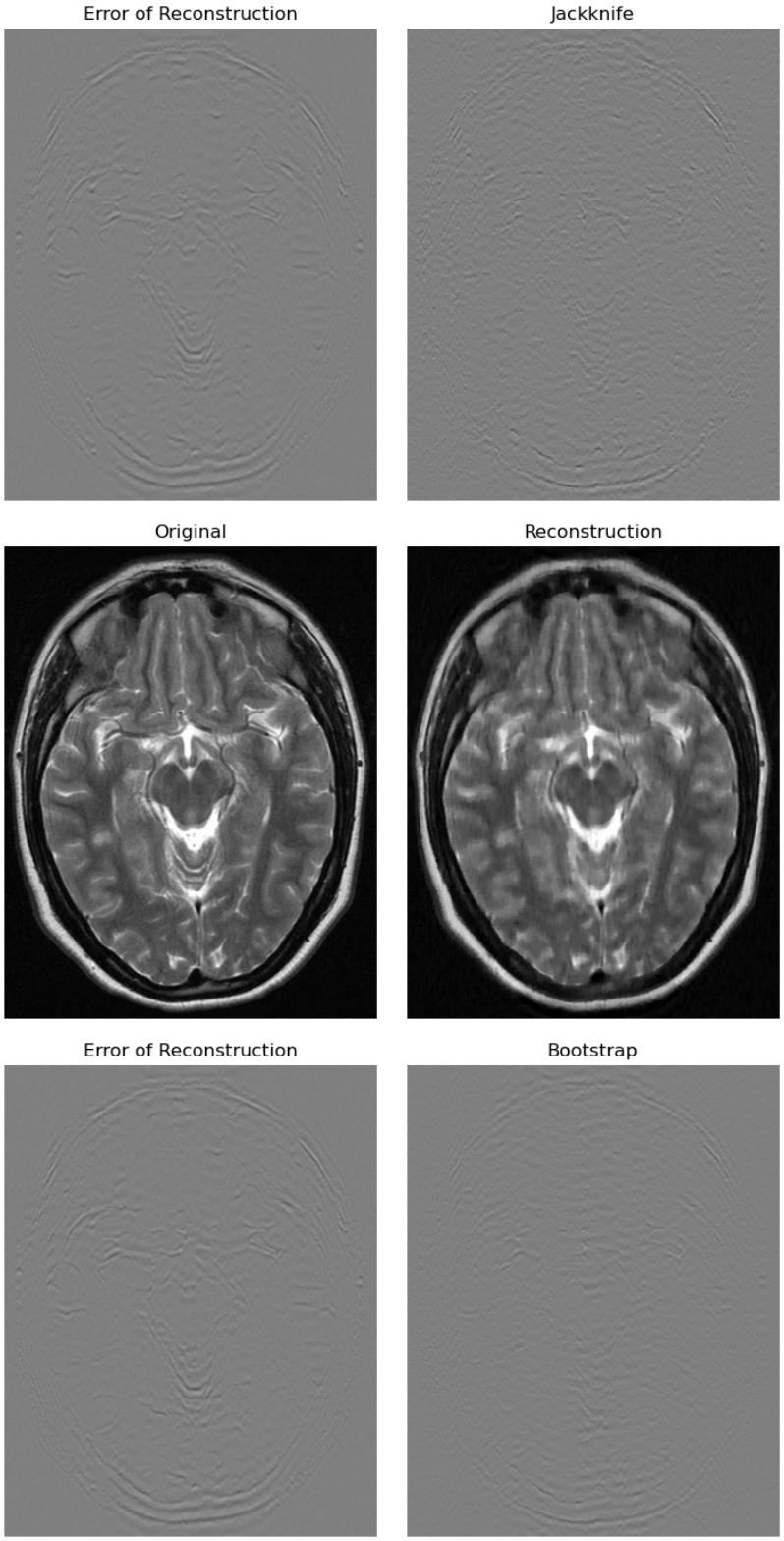


Figure 29: Horizontally retained sampling — slice 9

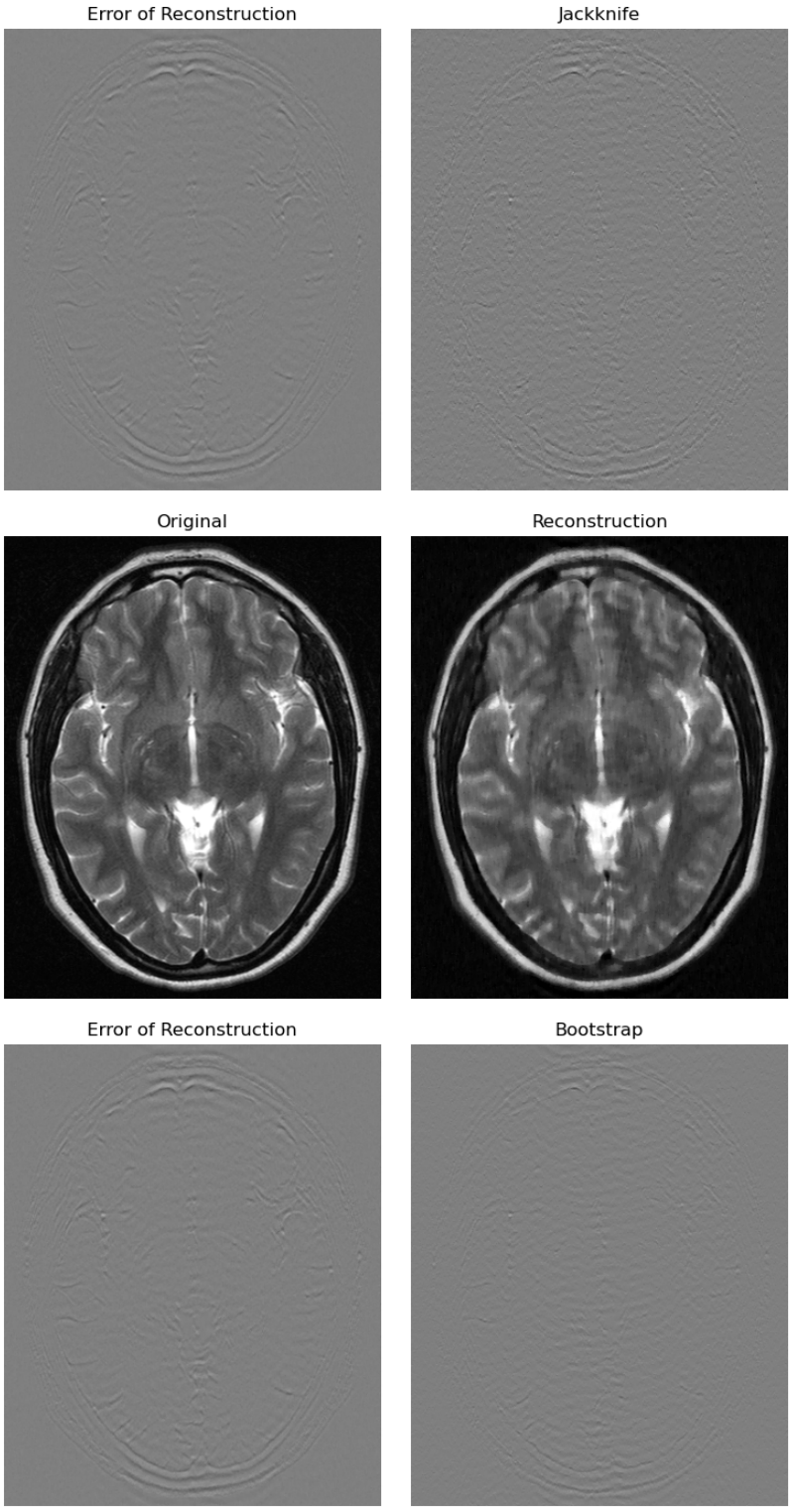


Figure 30: Horizontally retained sampling — slice 10

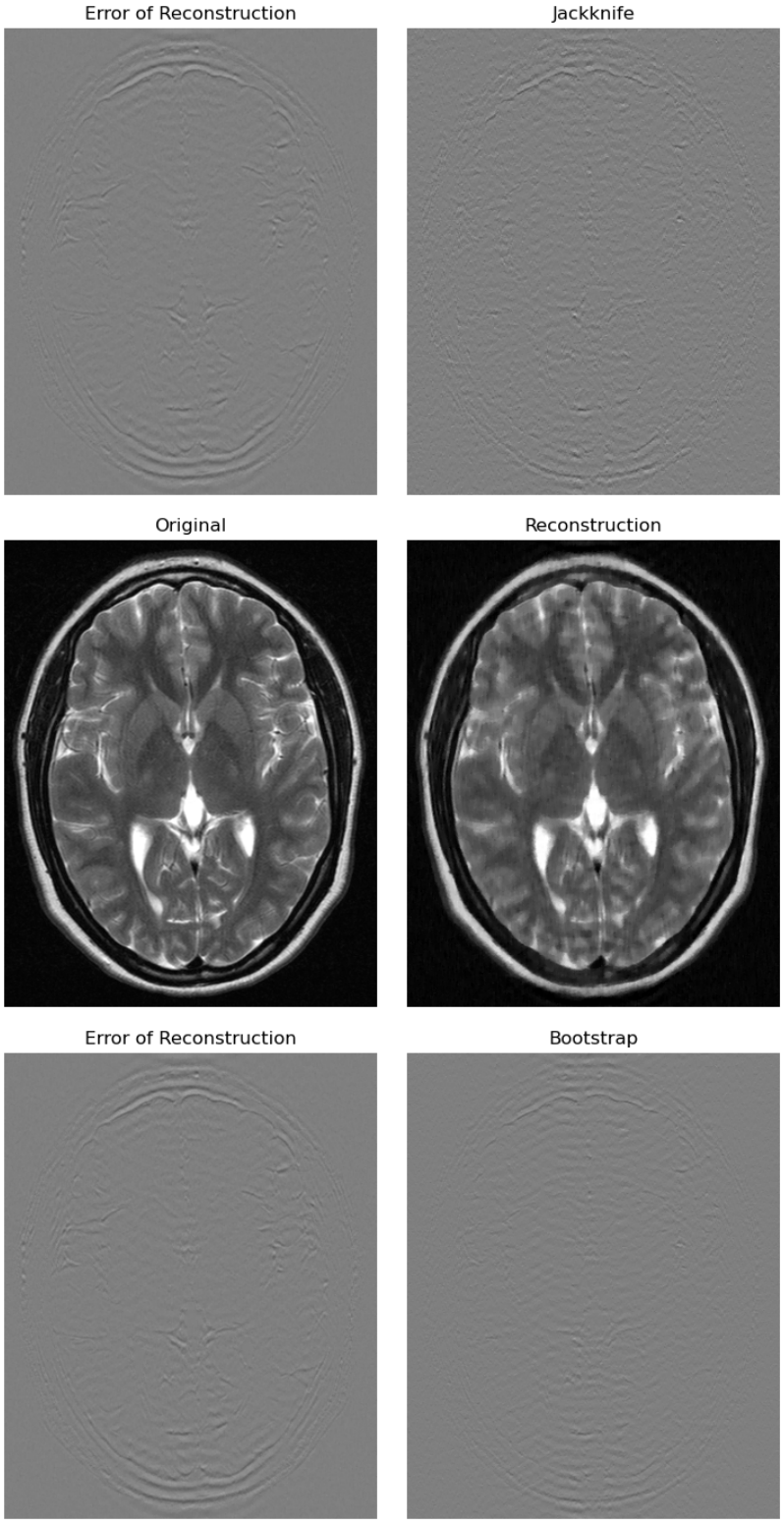


Figure 31: Horizontally retained sampling — slice 11

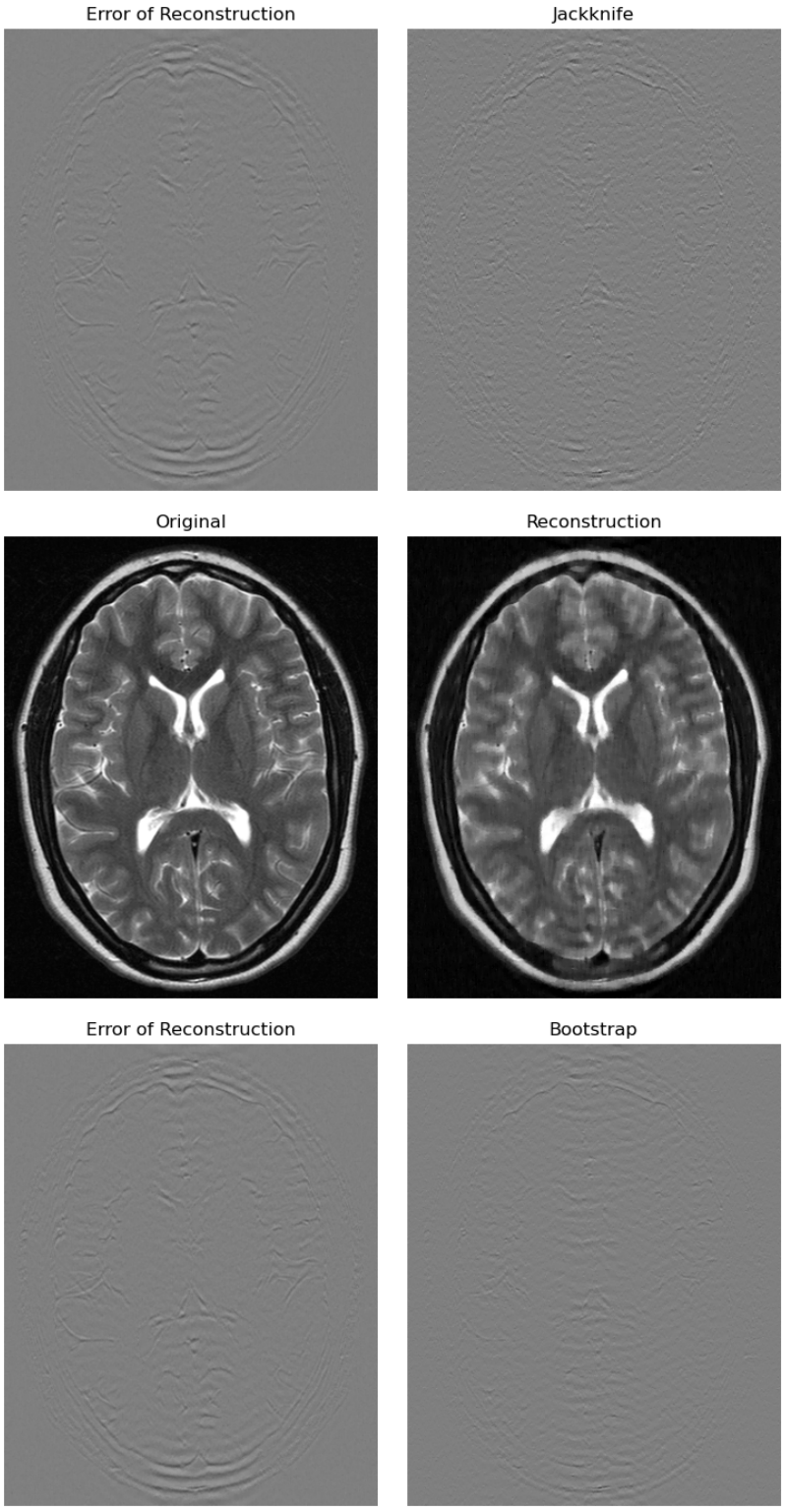


Figure 32: Horizontally retained sampling — slice 12

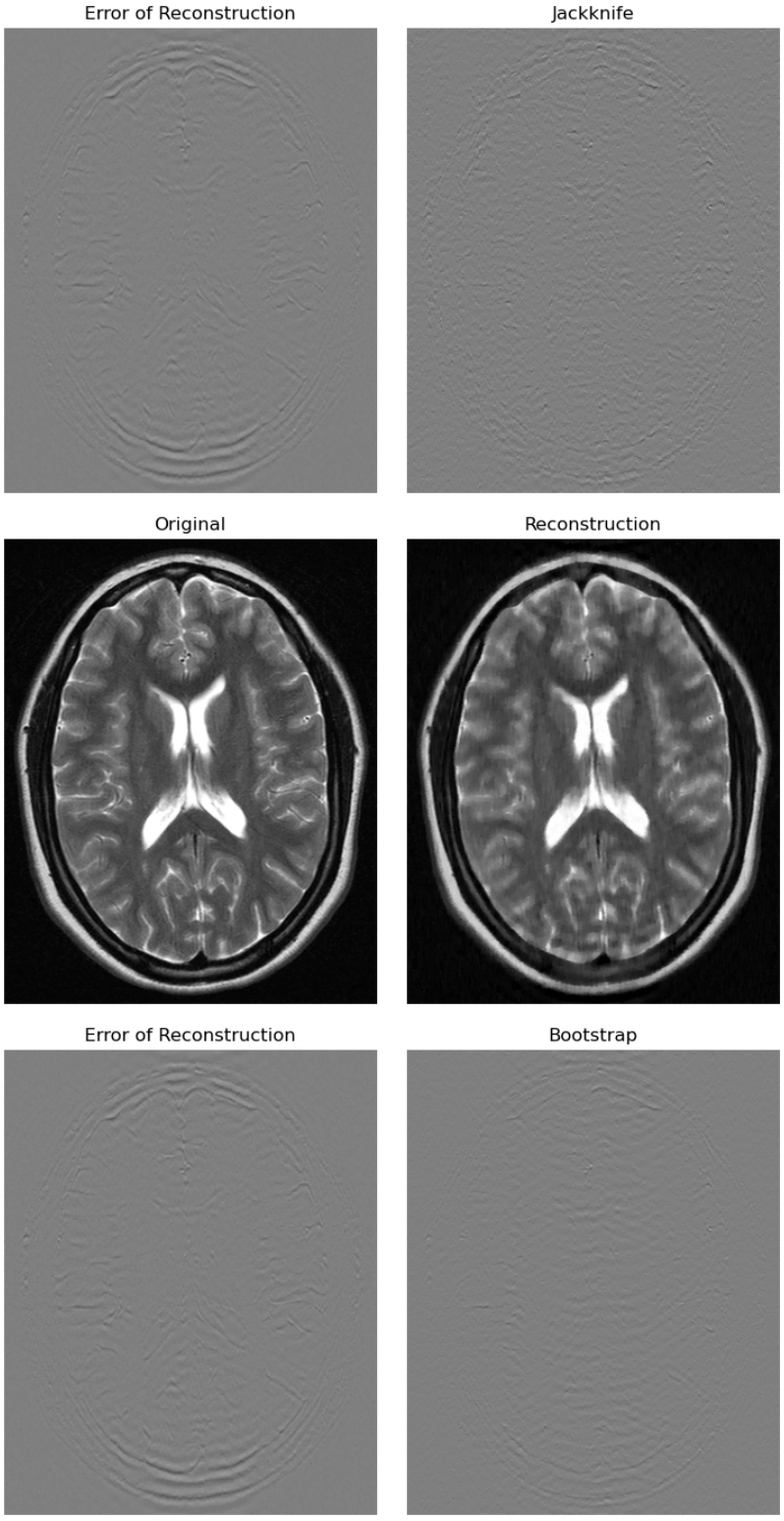


Figure 33: Horizontally retained sampling — slice 13

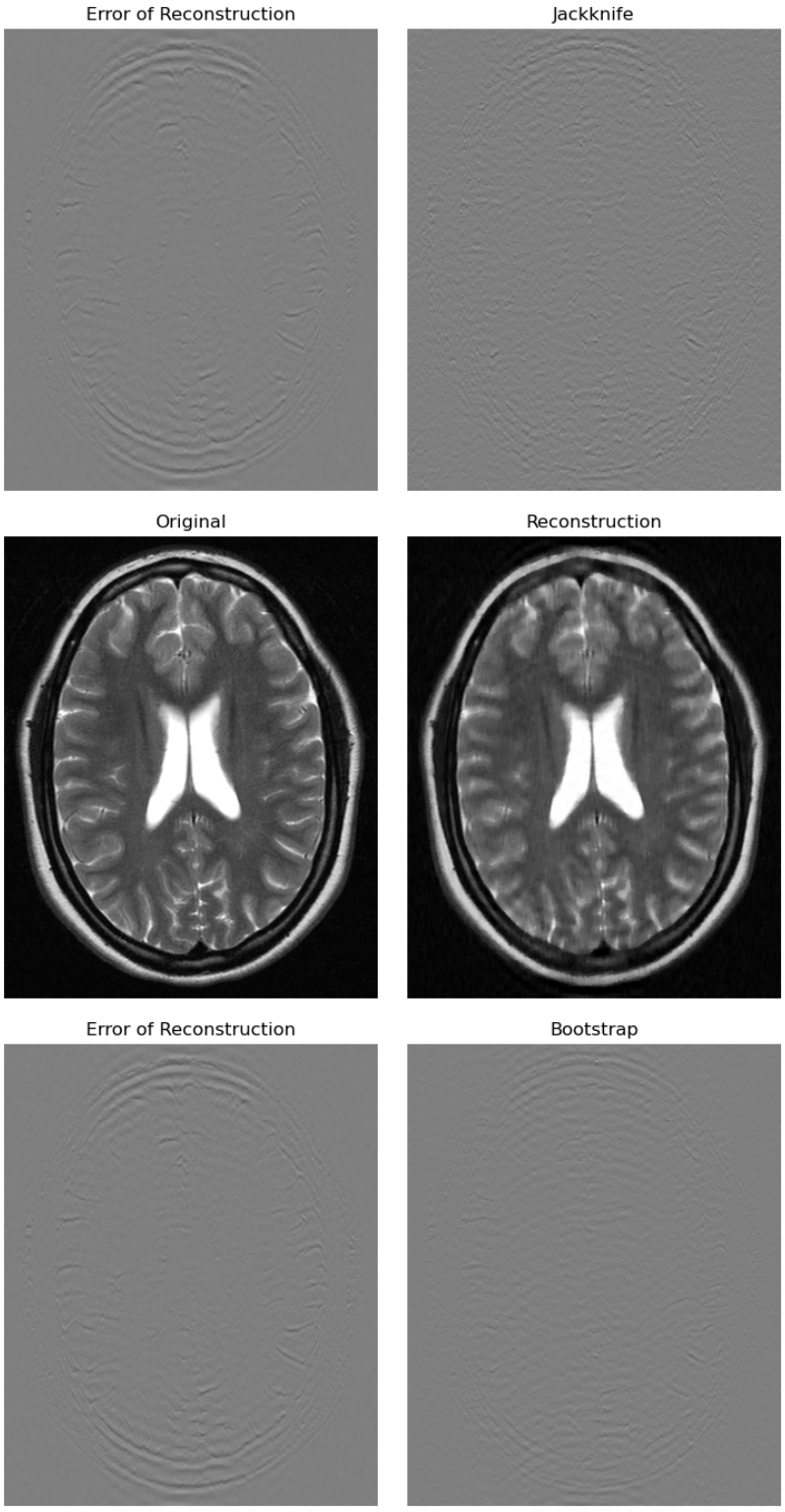


Figure 34: Horizontally retained sampling — slice 14

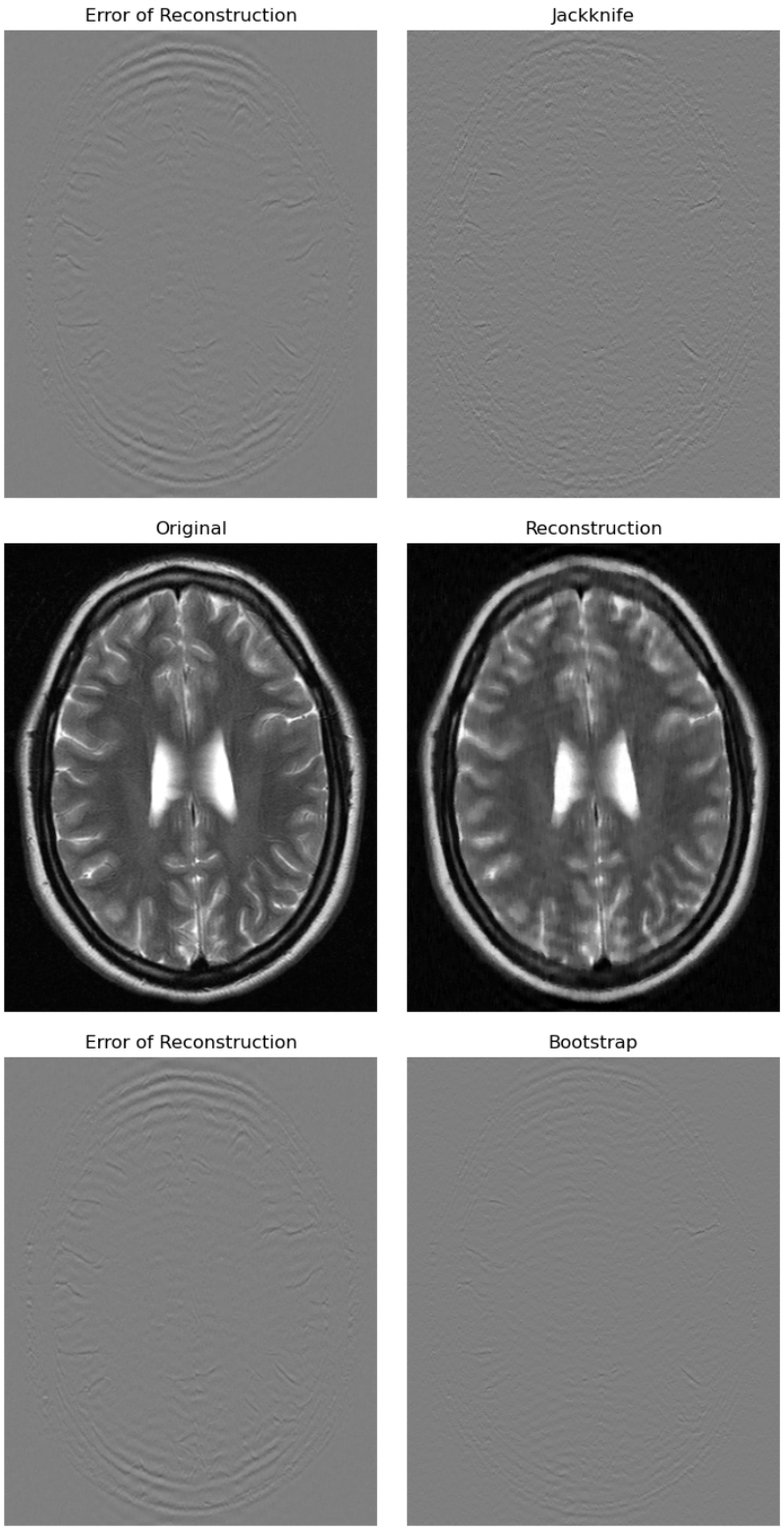


Figure 35: Horizontally retained sampling — slice 15

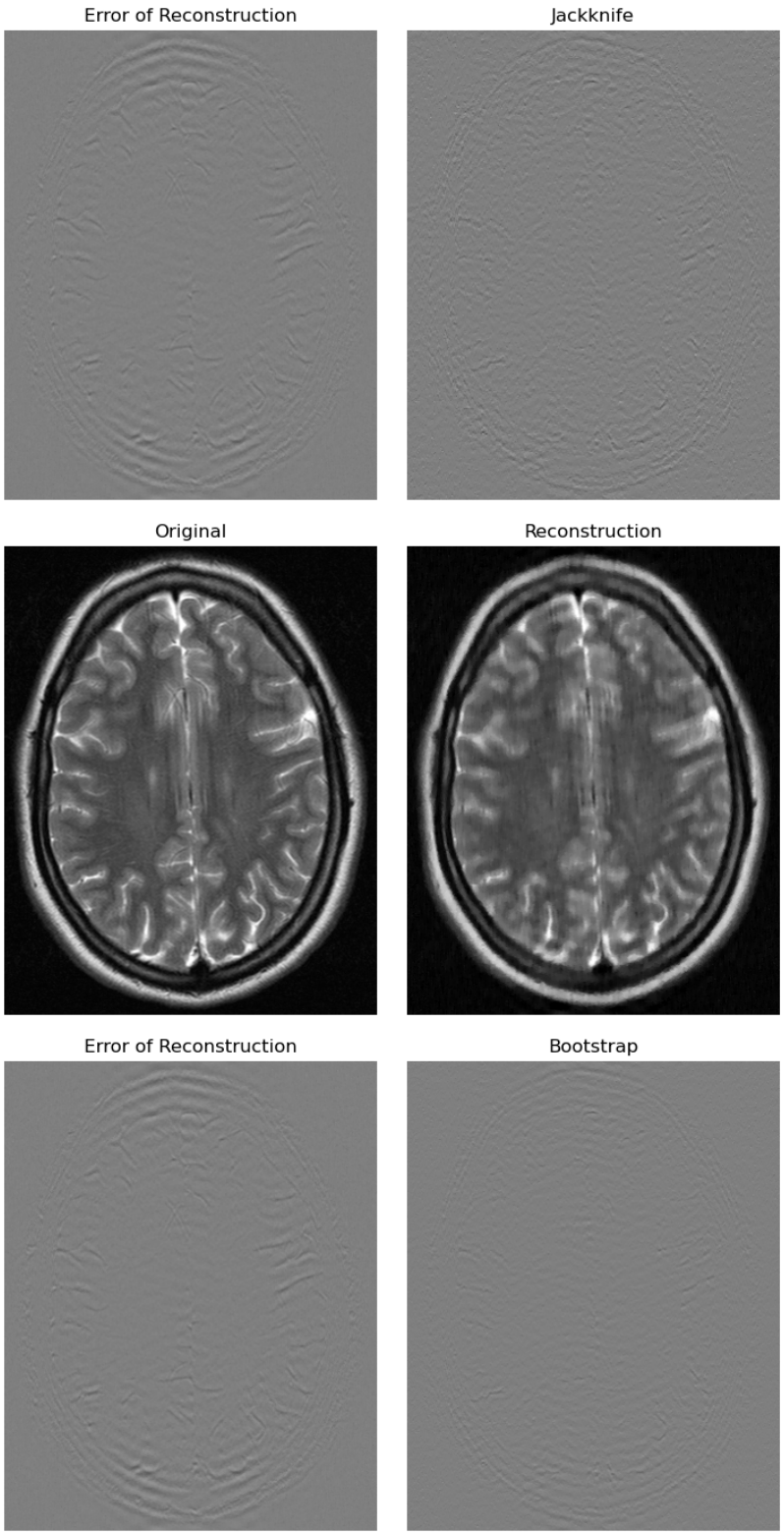


Figure 36: Horizontally retained sampling — slice 16

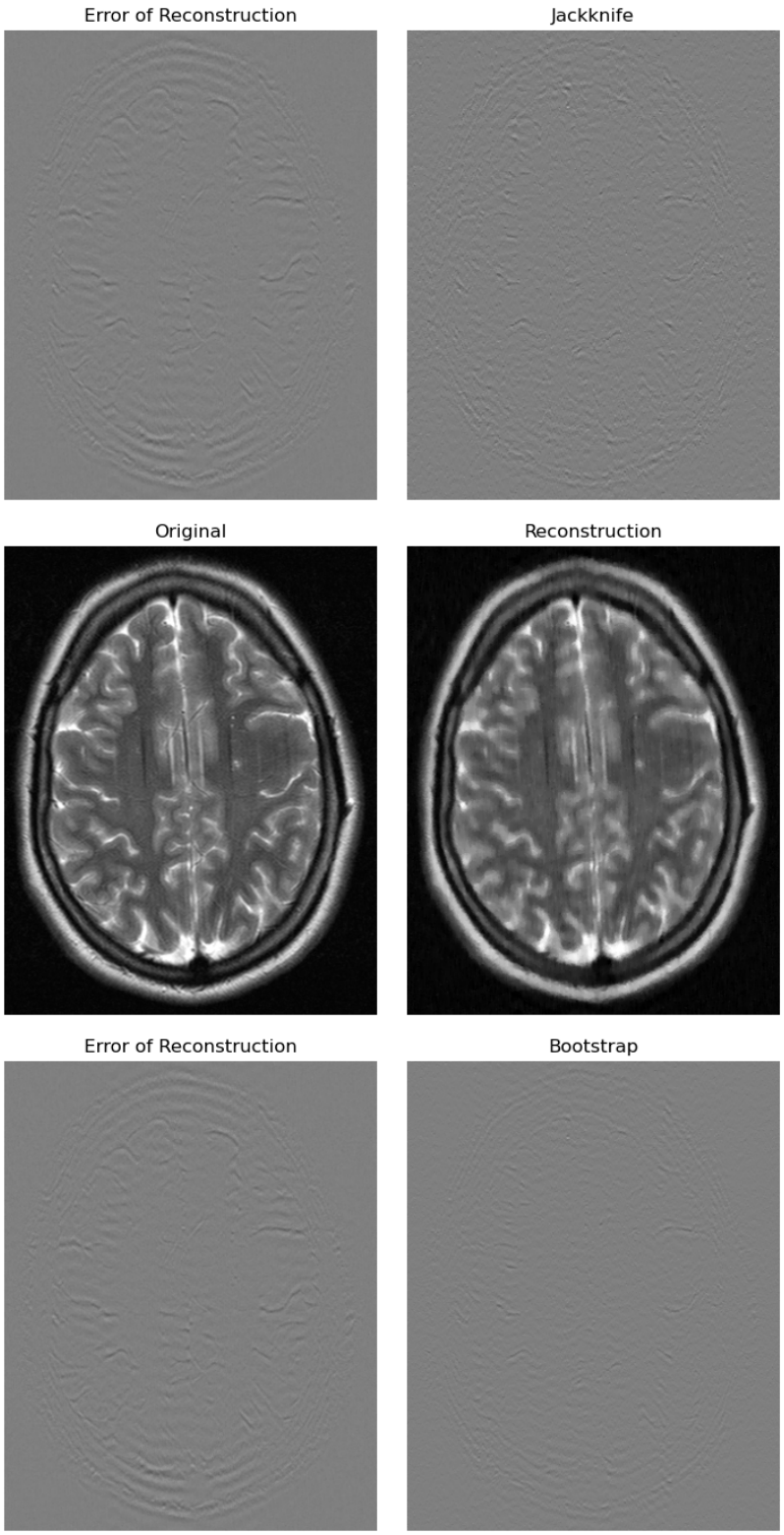


Figure 37: Horizontally retained sampling — slice 17

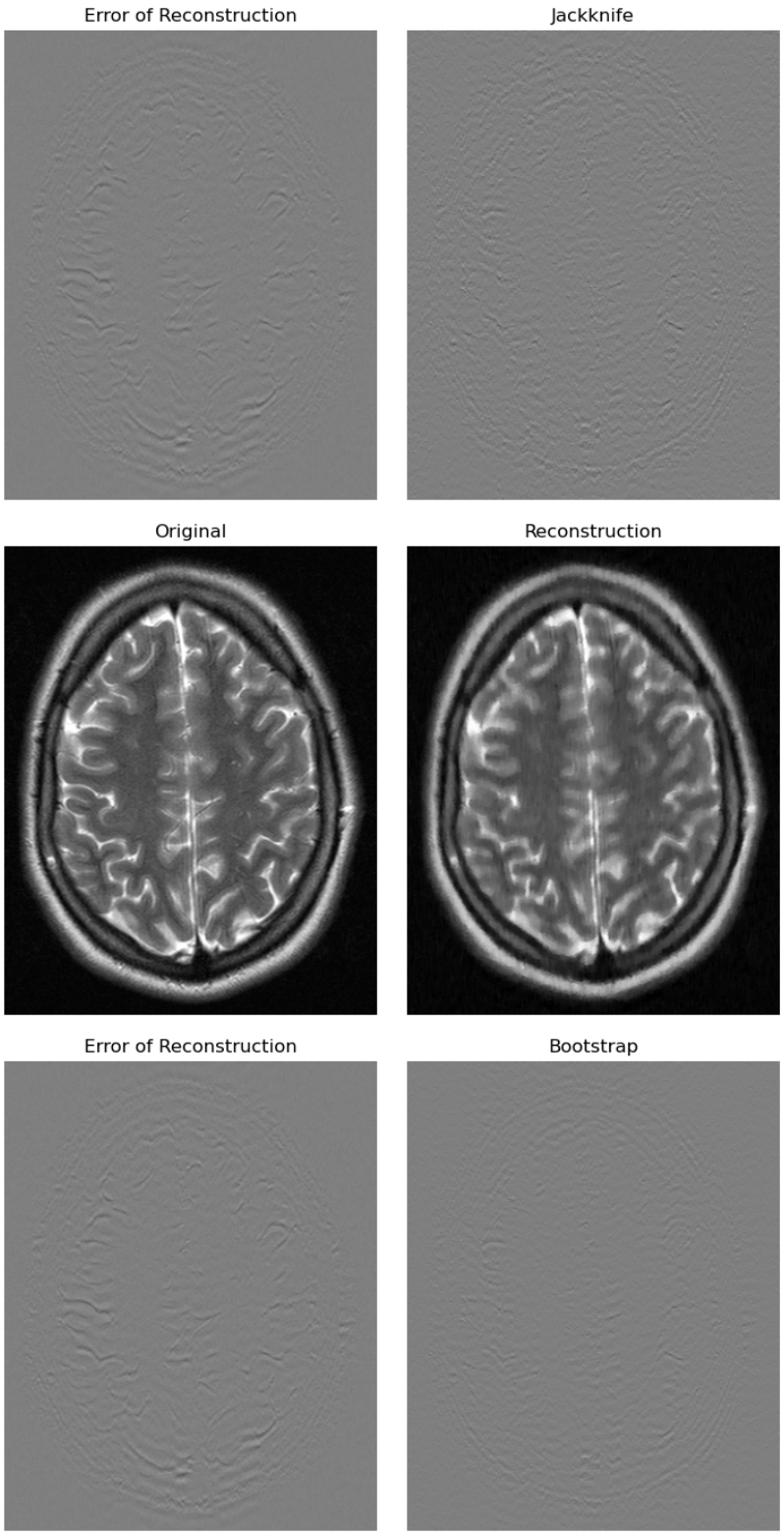


Figure 38: Horizontally retained sampling — slice 18

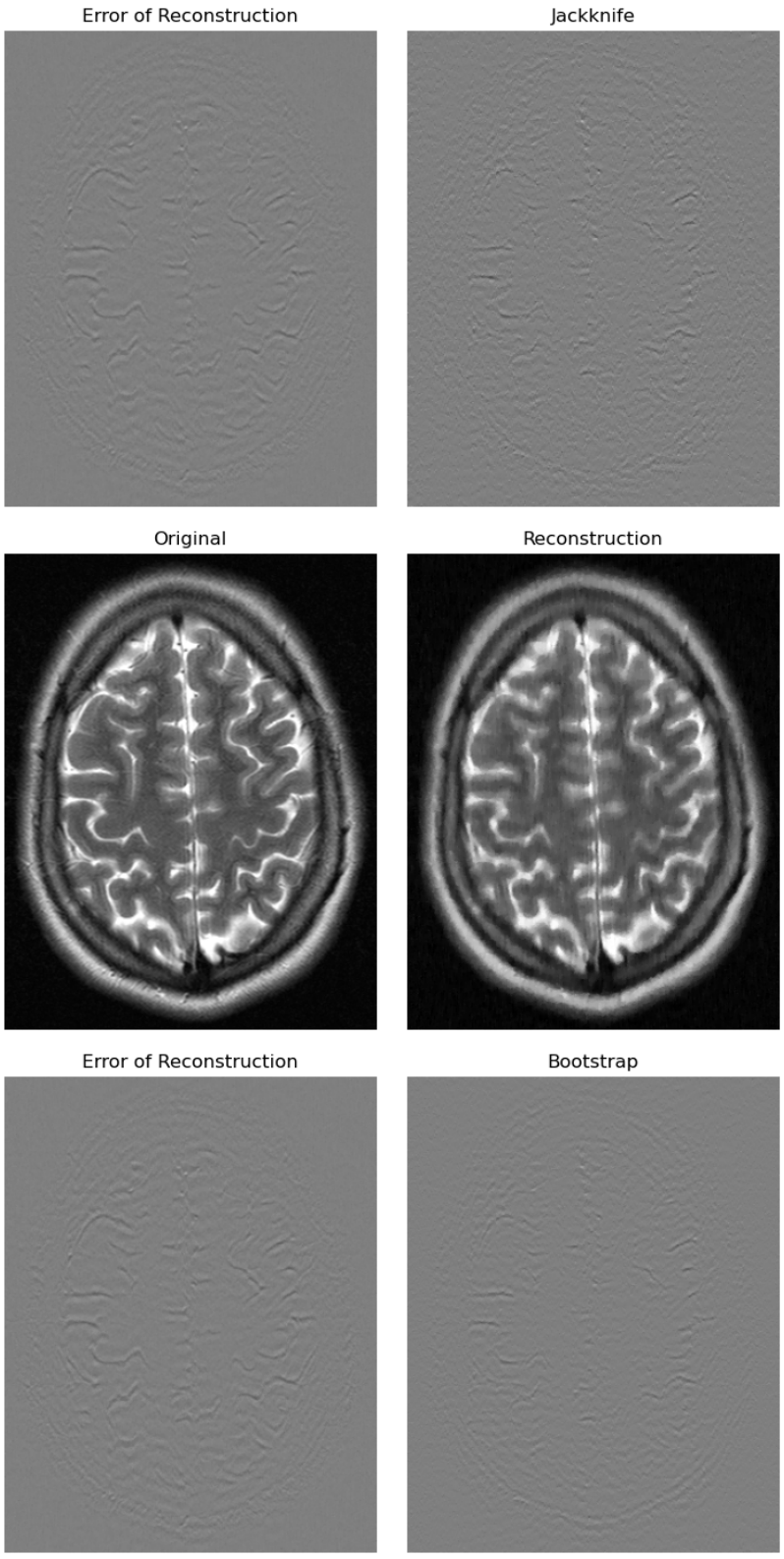


Figure 39: Horizontally retained sampling — slice 19

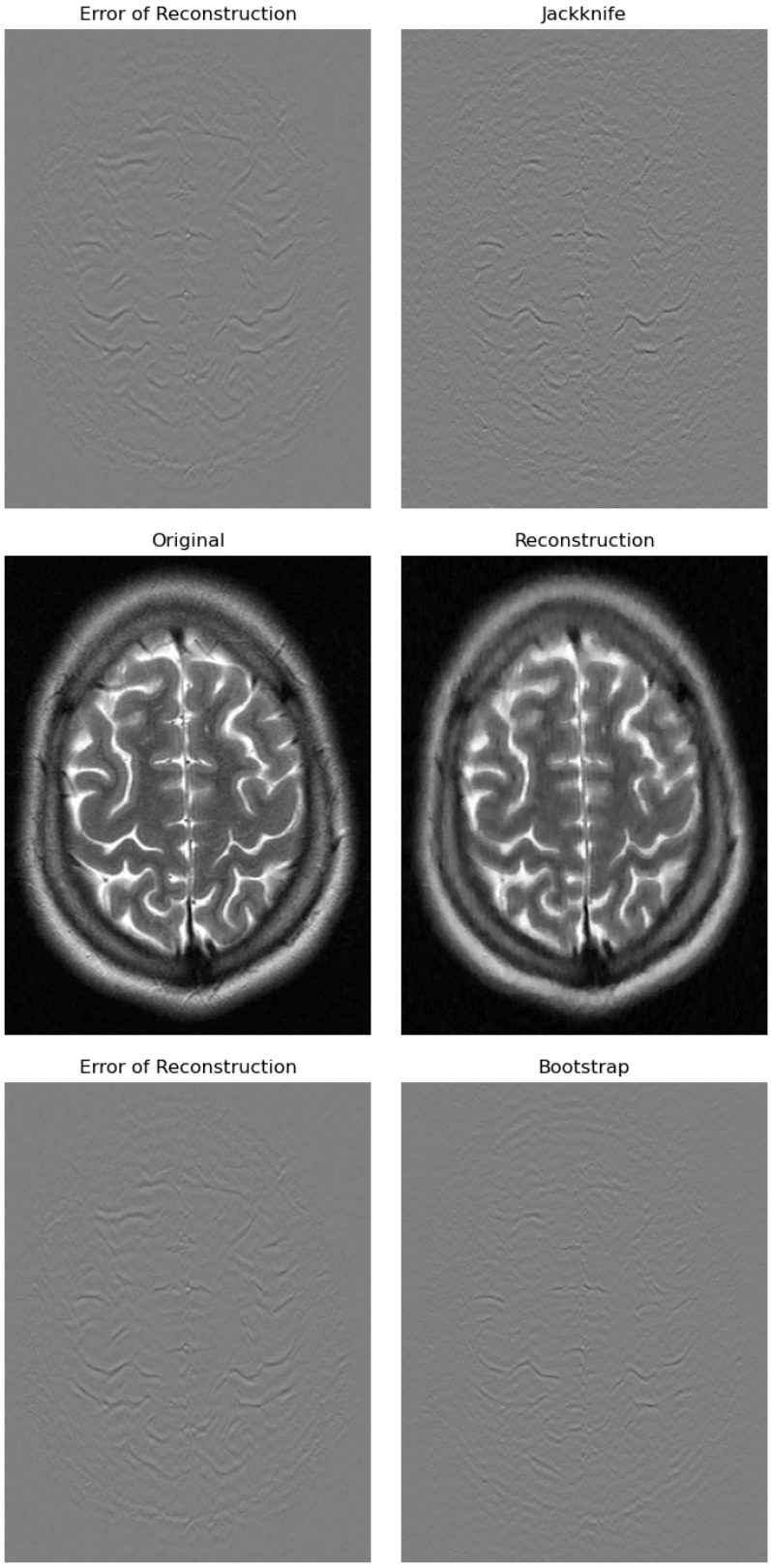


Figure 40: Horizontally retained sampling — slice 20

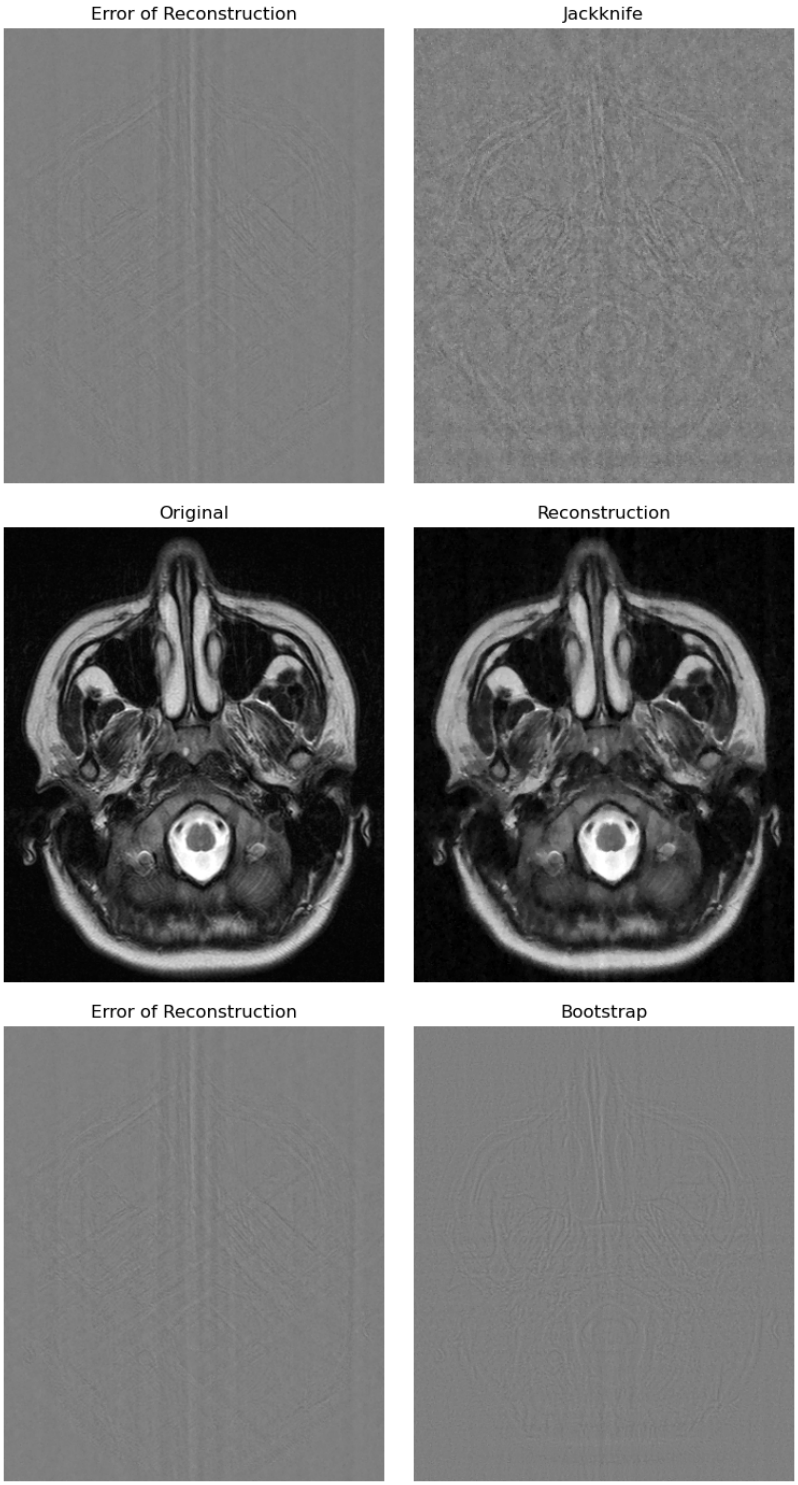


Figure 41: 2× radially retained sampling — slice 1

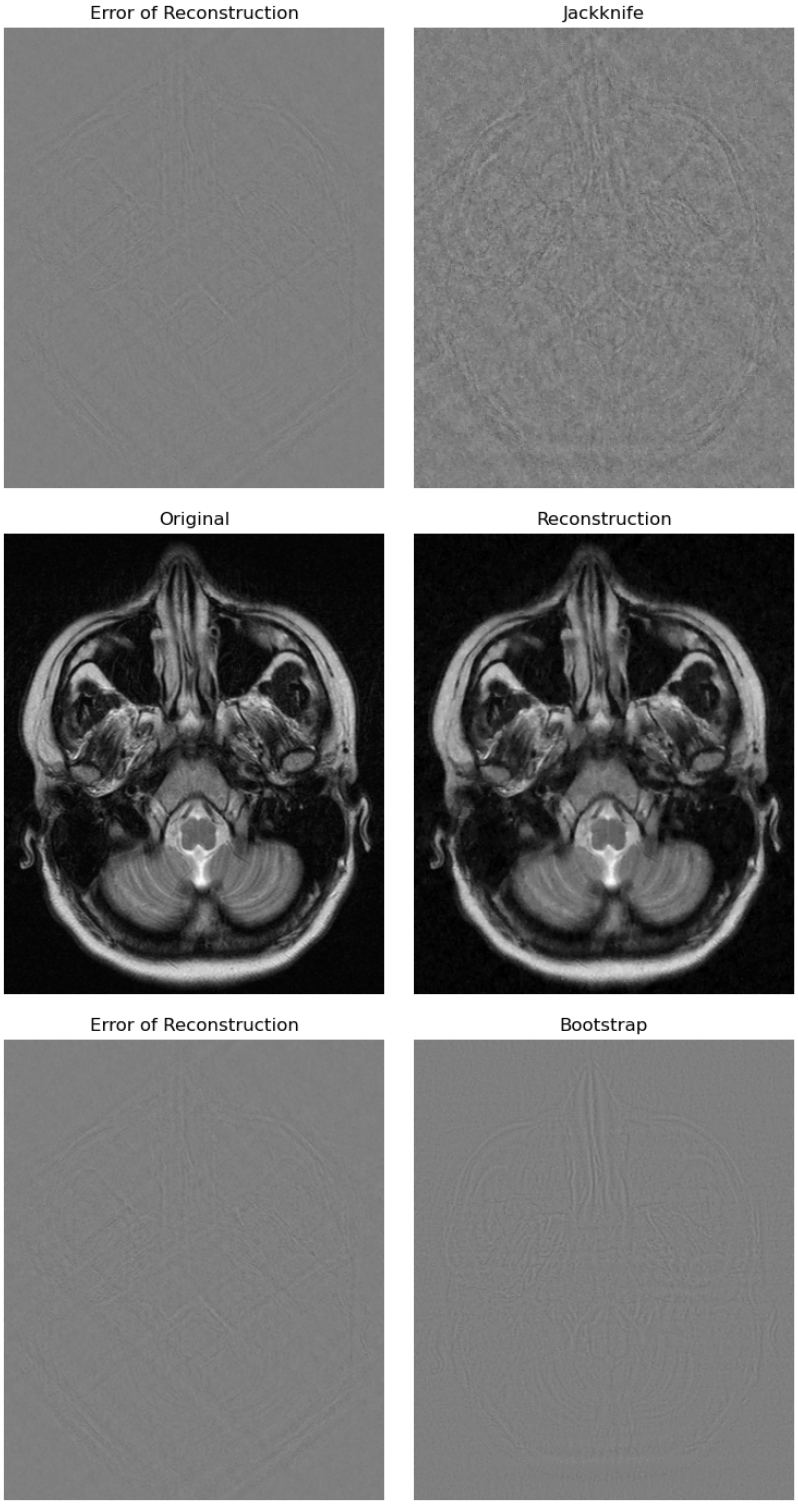


Figure 42: 2× radially retained sampling — slice 2

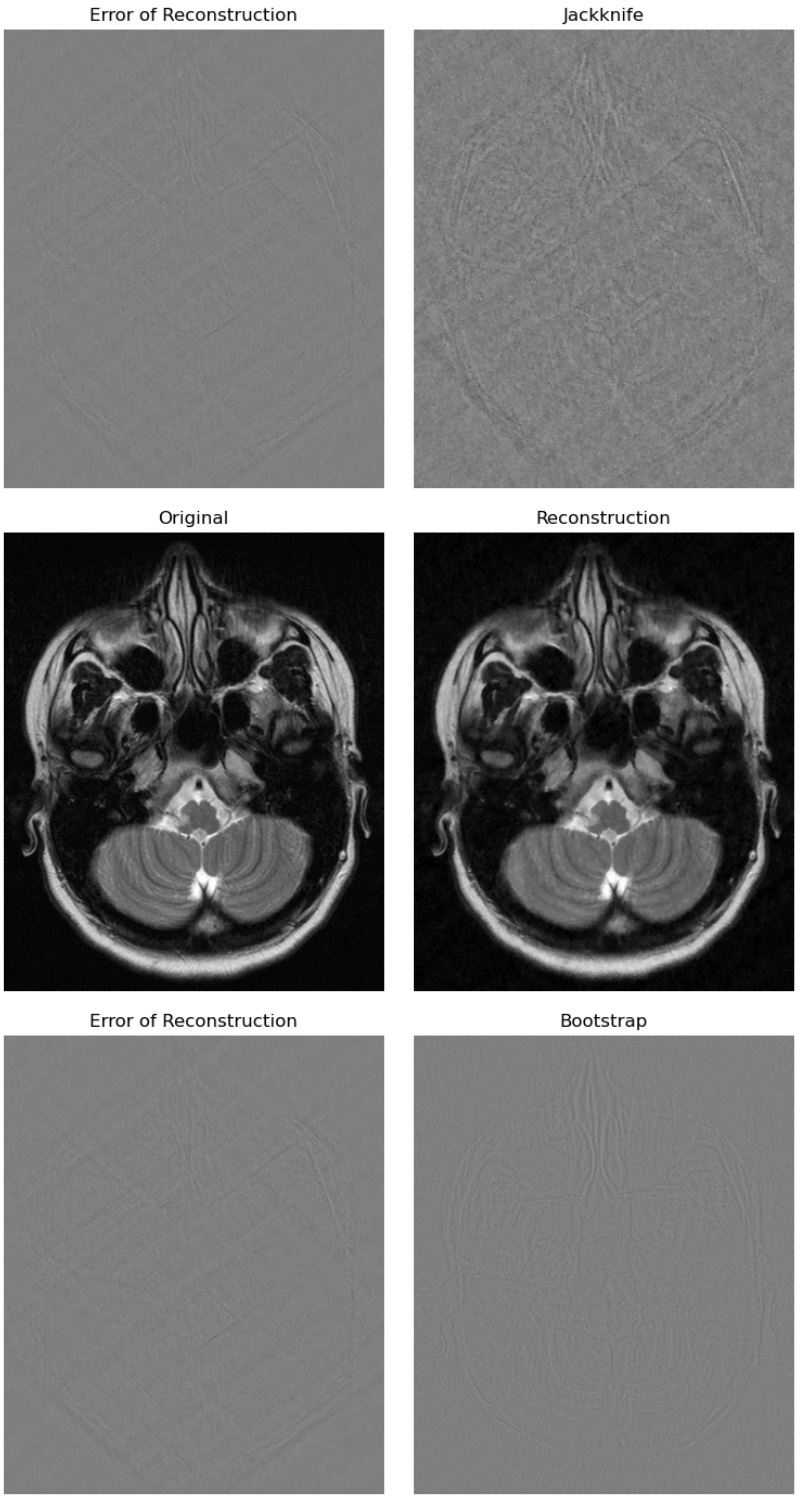


Figure 43: 2× radially retained sampling — slice 3

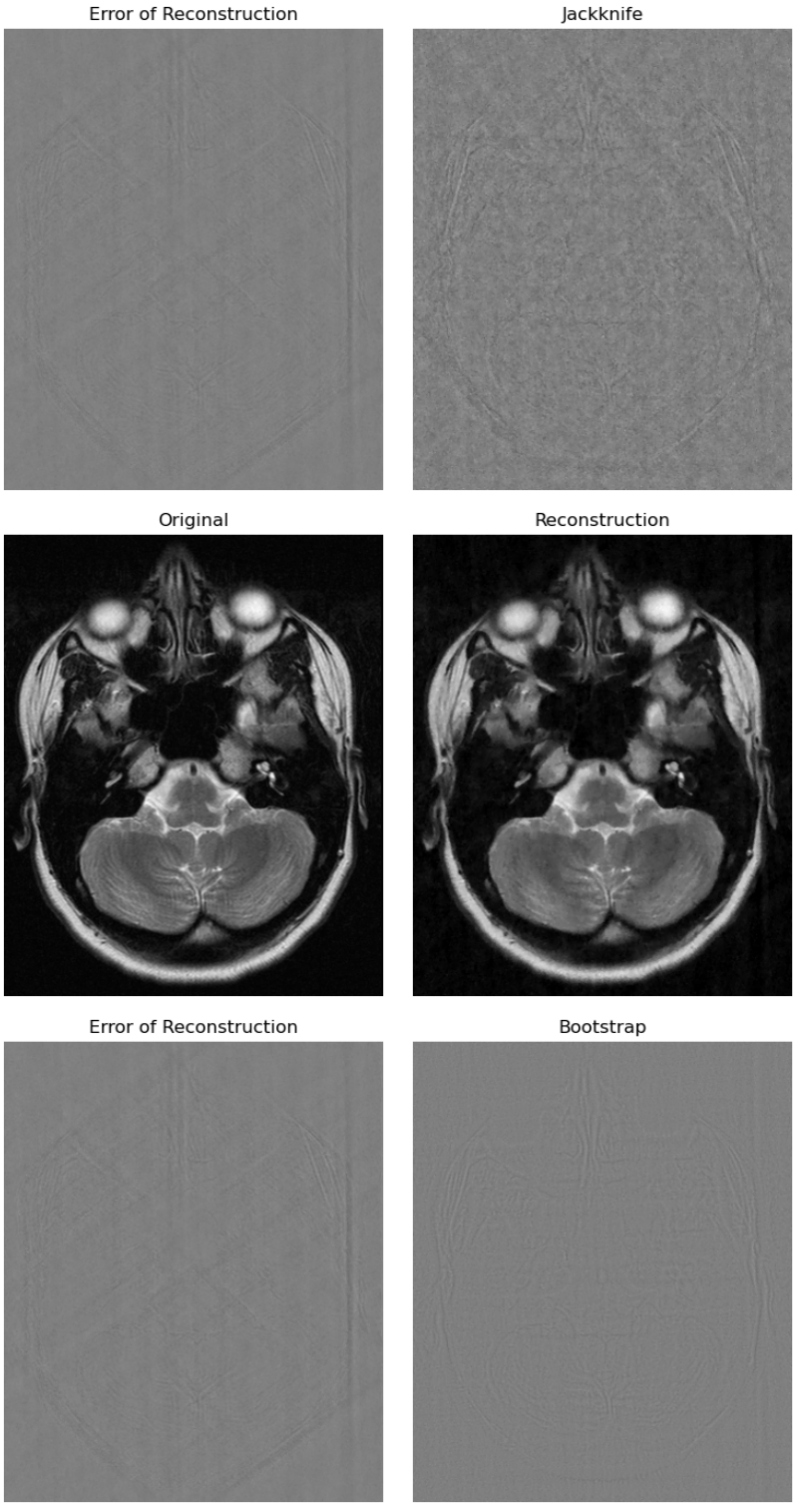


Figure 44: 2× radially retained sampling — slice 4

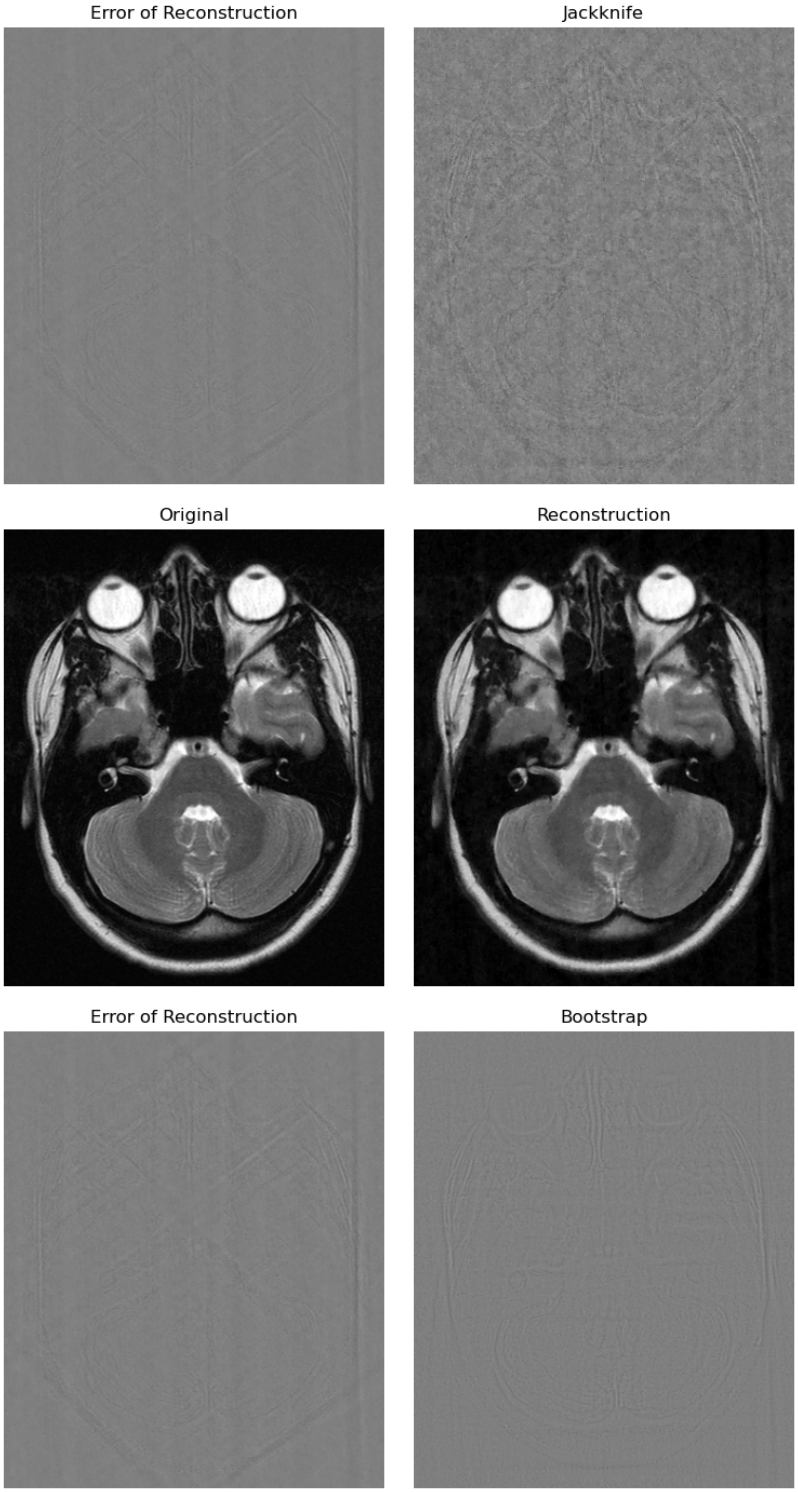


Figure 45: 2× radially retained sampling — slice 5

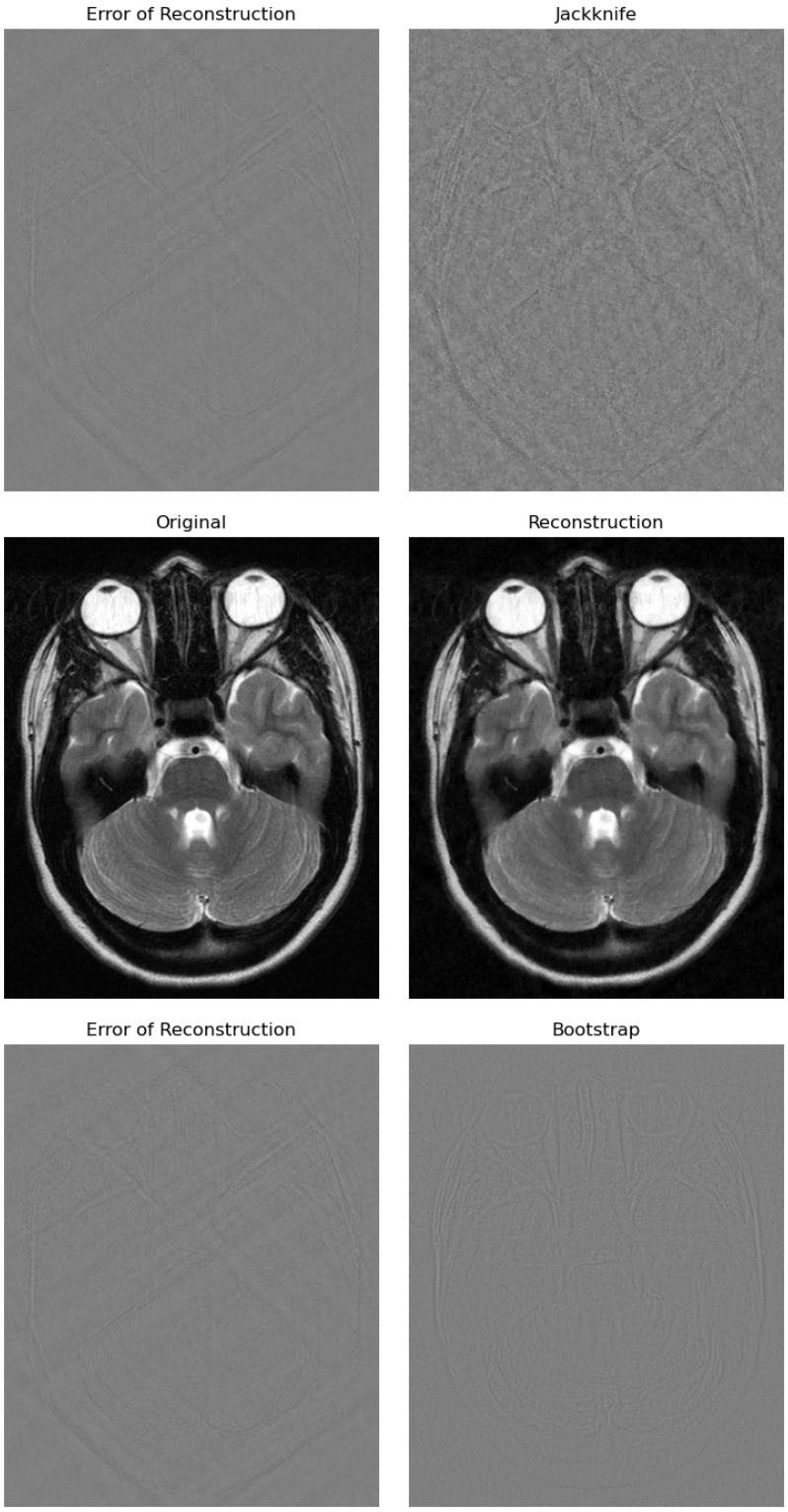


Figure 46: 2× radially retained sampling — slice 6

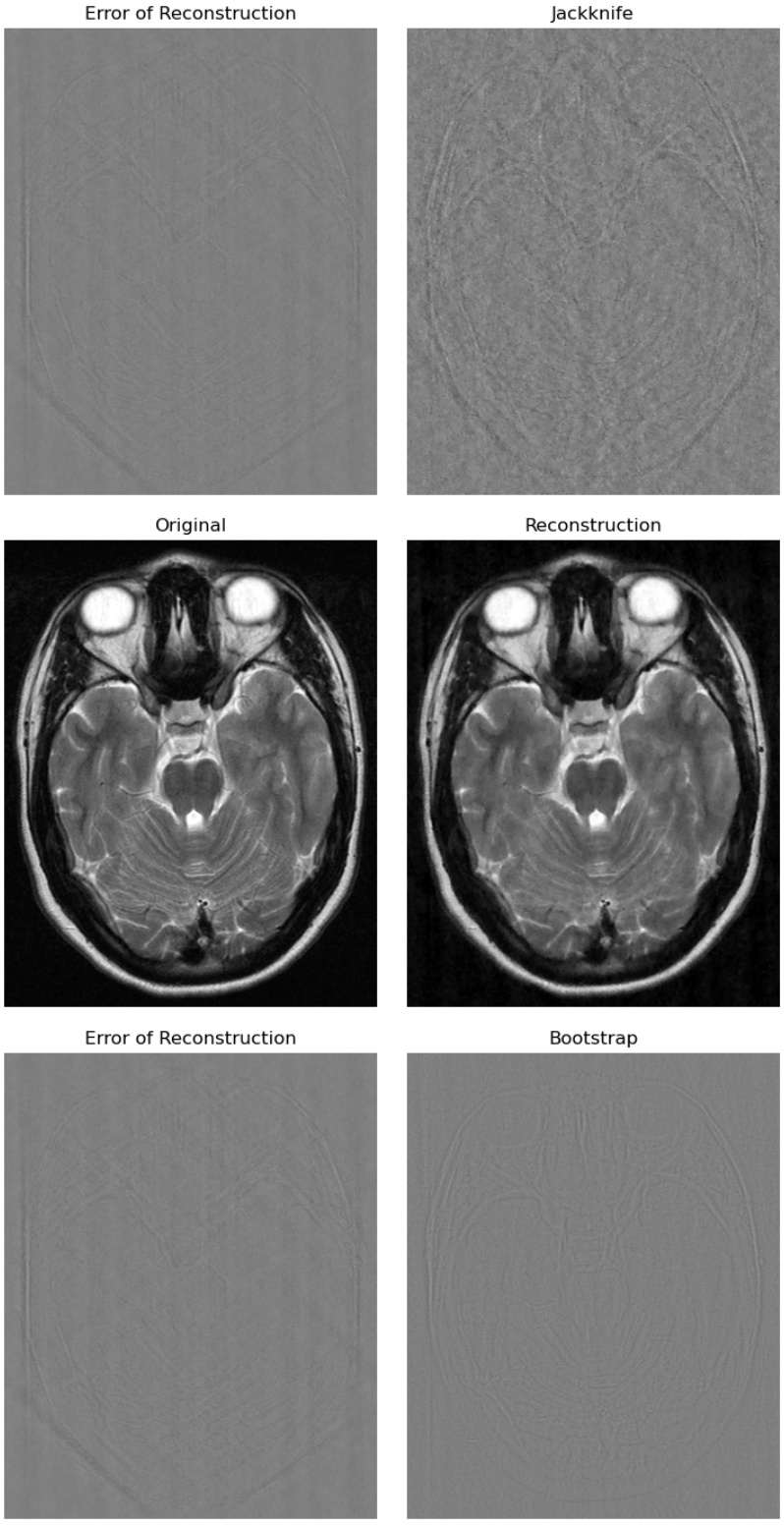


Figure 47: 2× radially retained sampling — slice 7

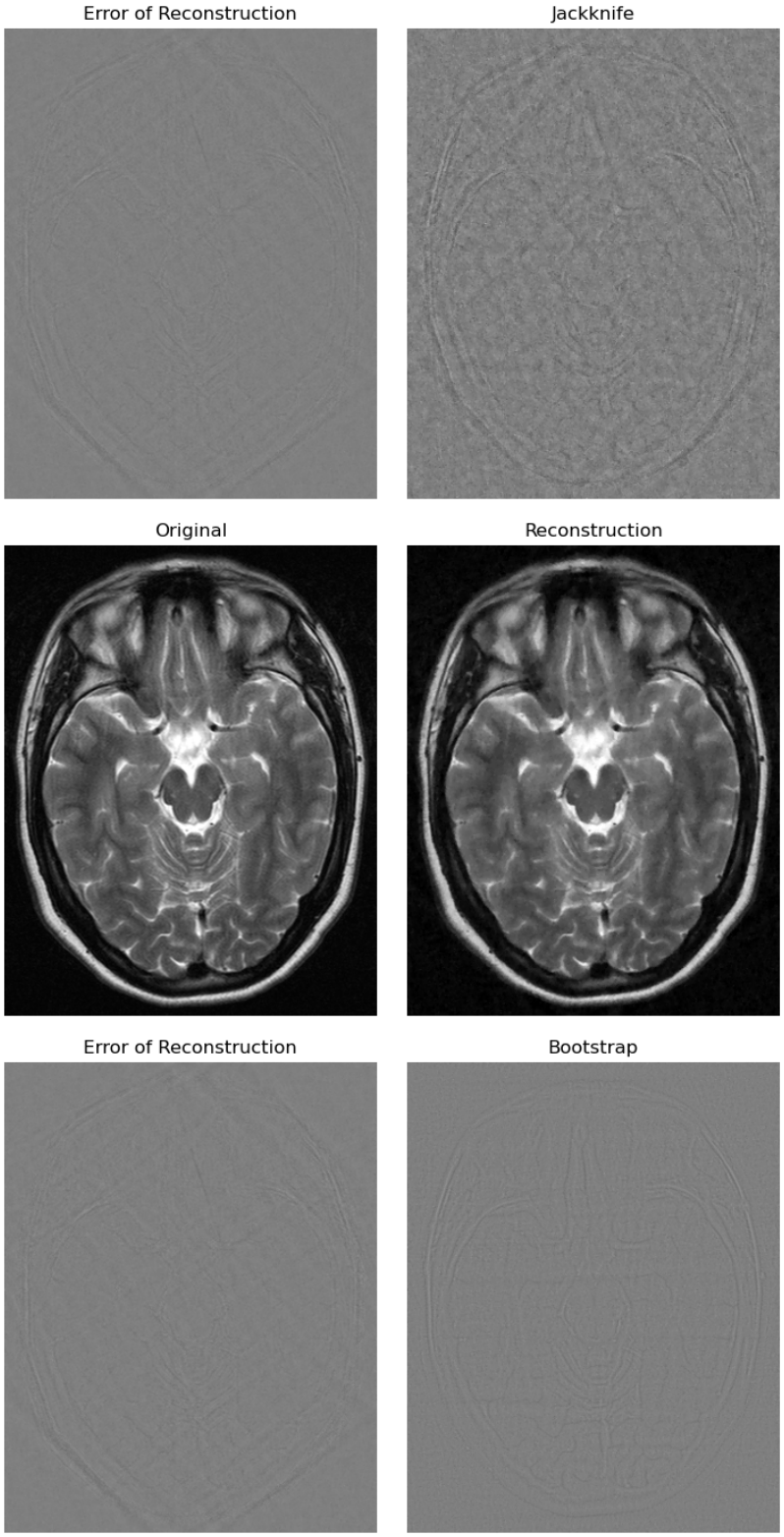


Figure 48: 2× radially retained sampling — slice 8

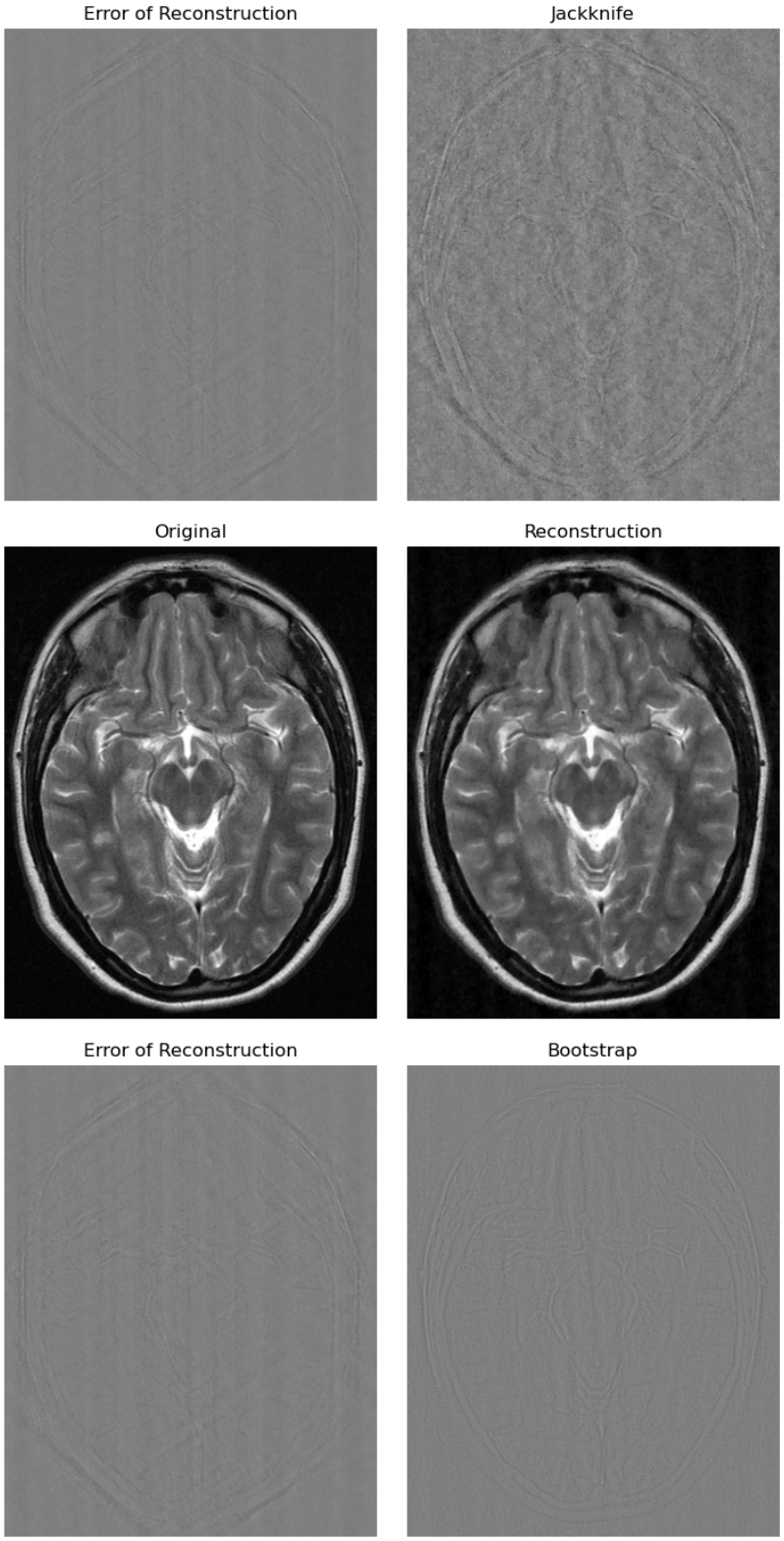


Figure 49: 2× radially retained sampling — slice 9

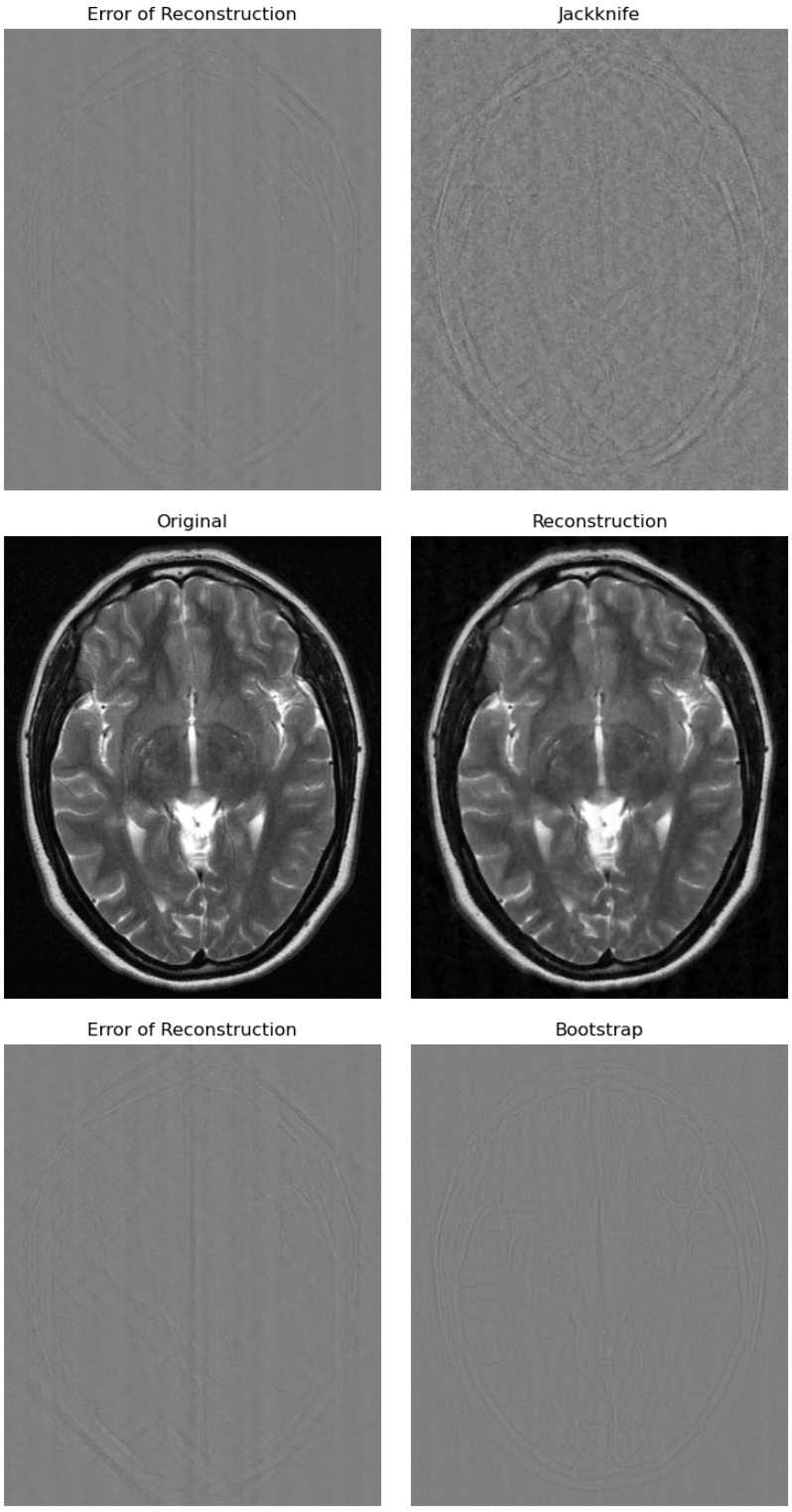


Figure 50: 2× radially retained sampling — slice 10

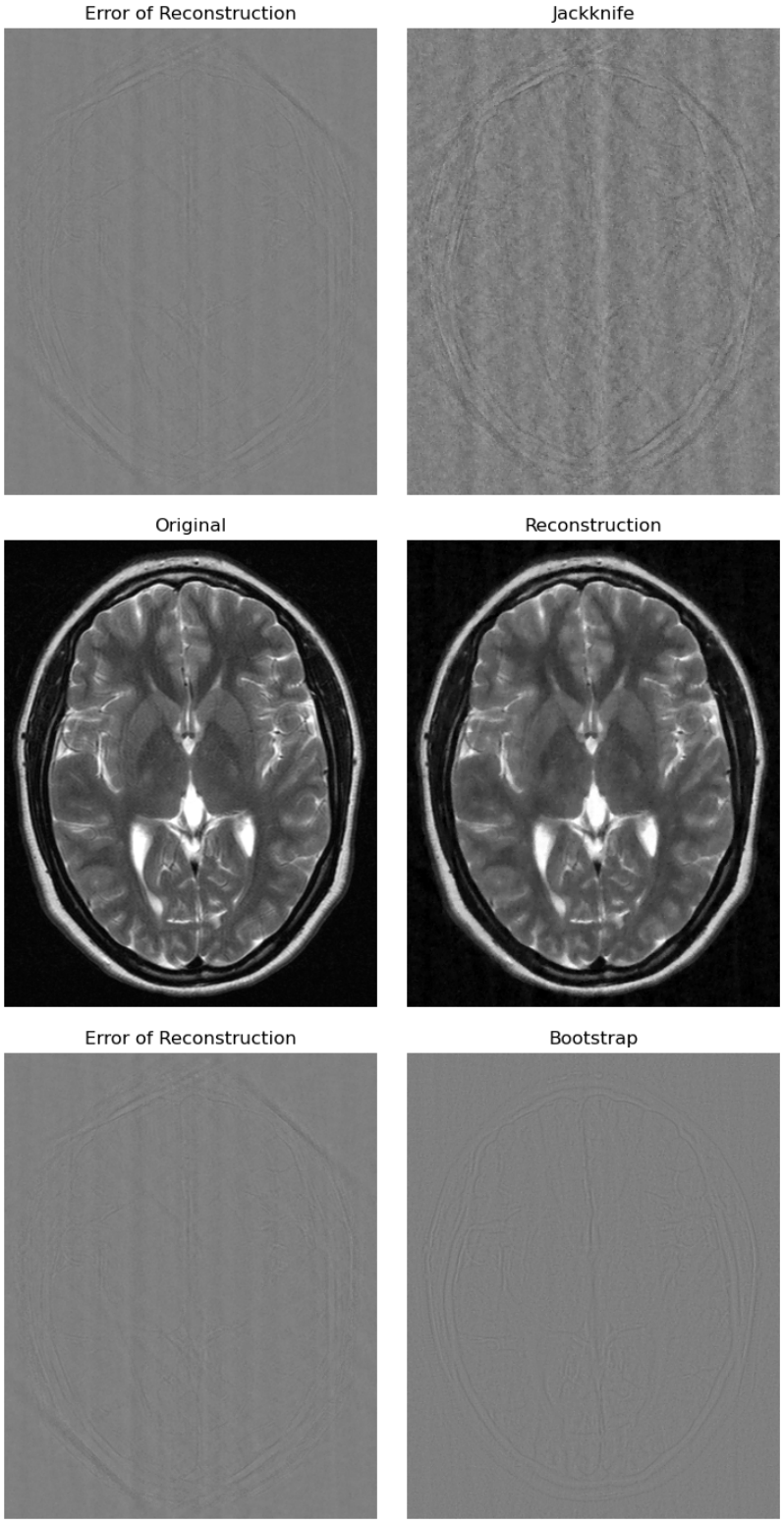


Figure 51: 2× radially retained sampling — slice 11

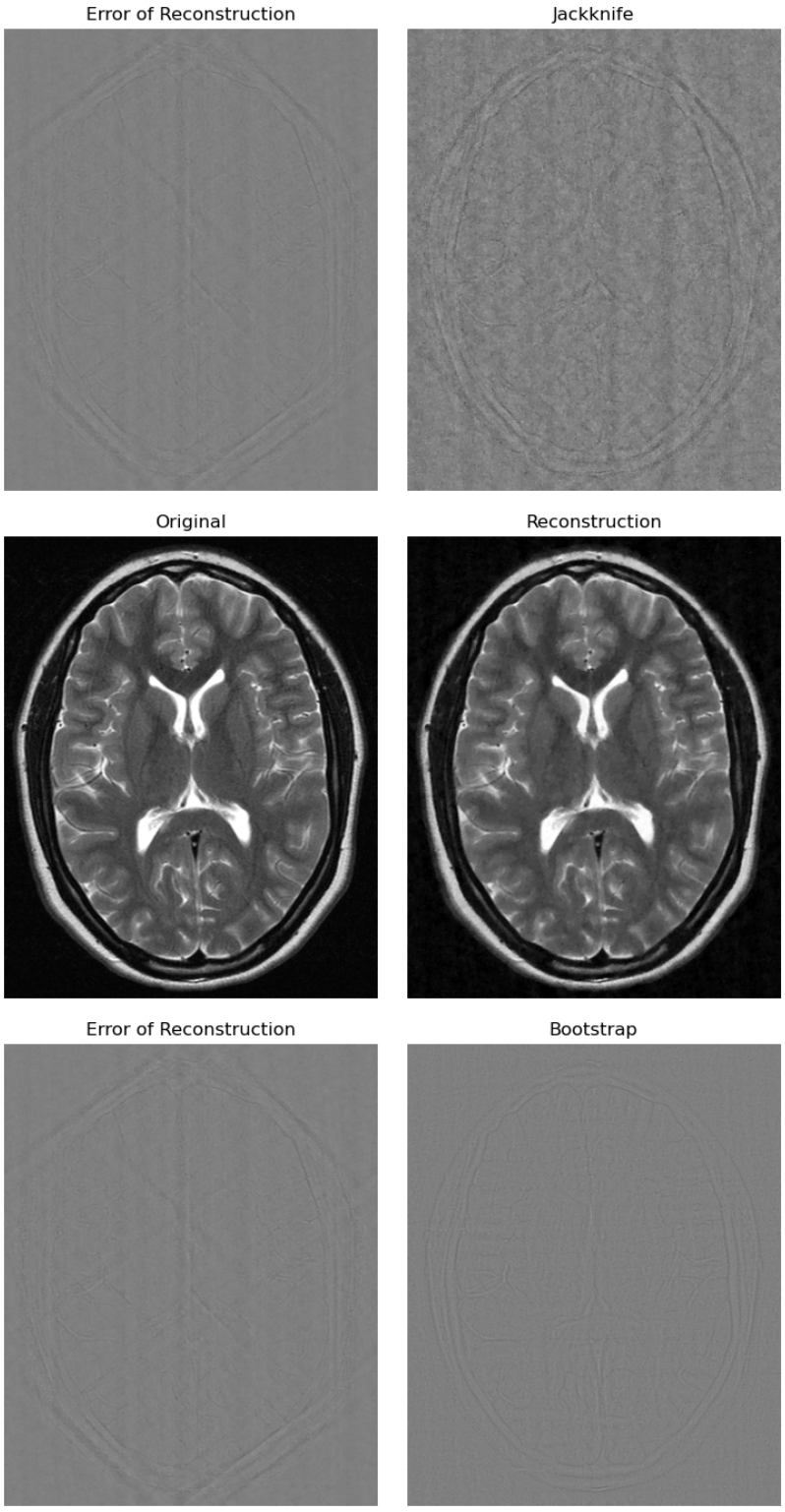


Figure 52: 2× radially retained sampling — slice 12

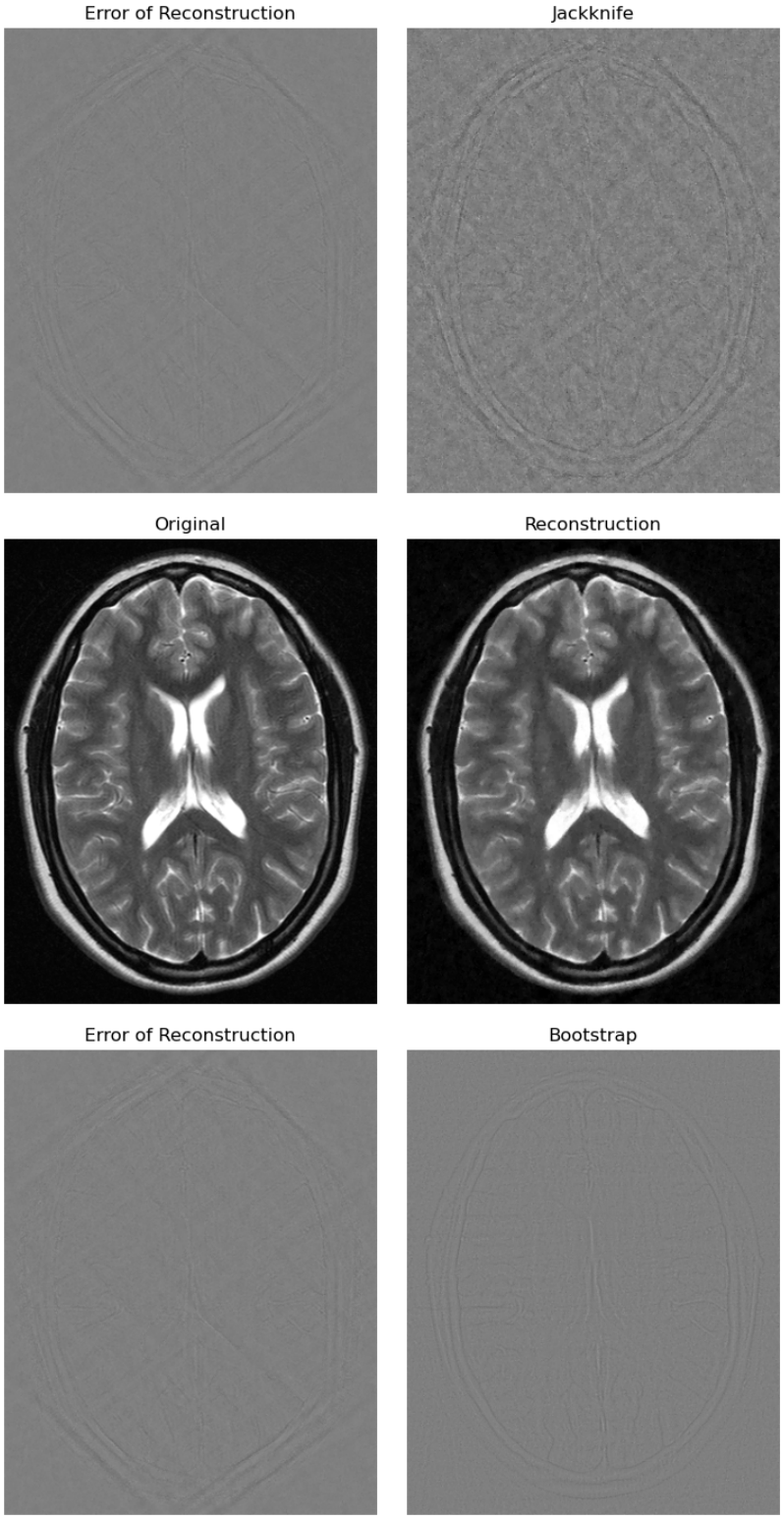


Figure 53: 2× radially retained sampling — slice 13

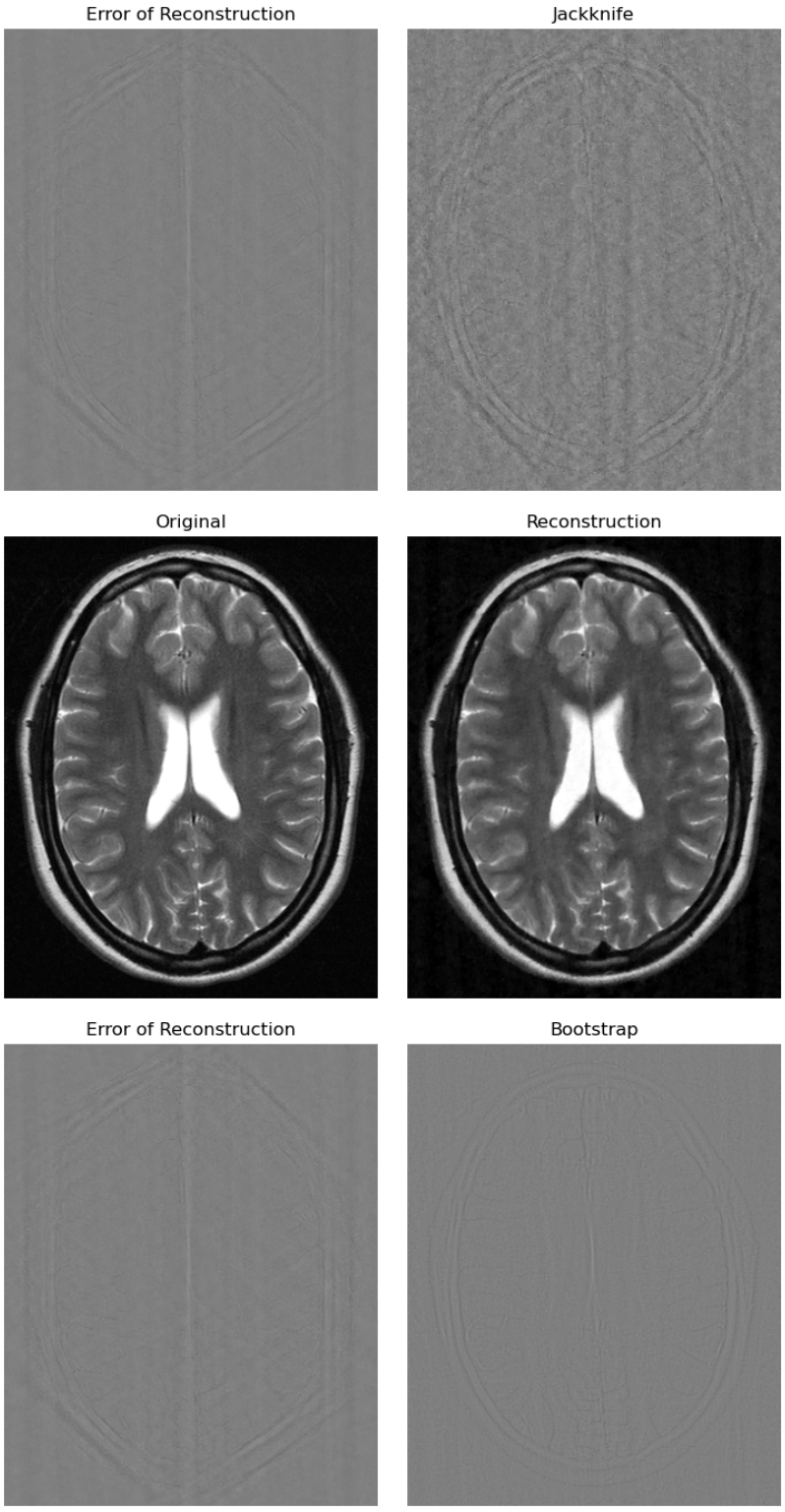


Figure 54: 2× radially retained sampling — slice 14

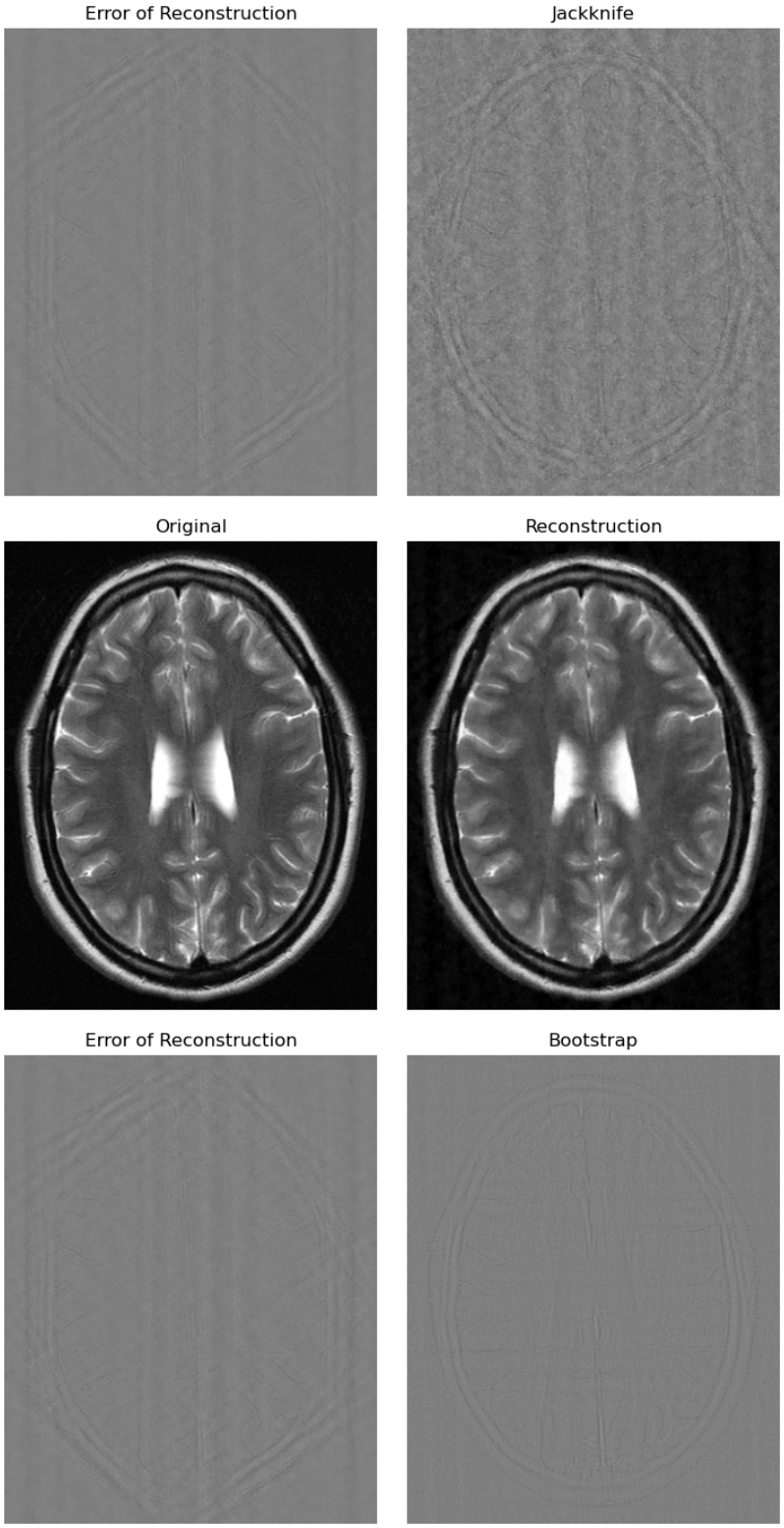


Figure 55: 2× radially retained sampling — slice 15

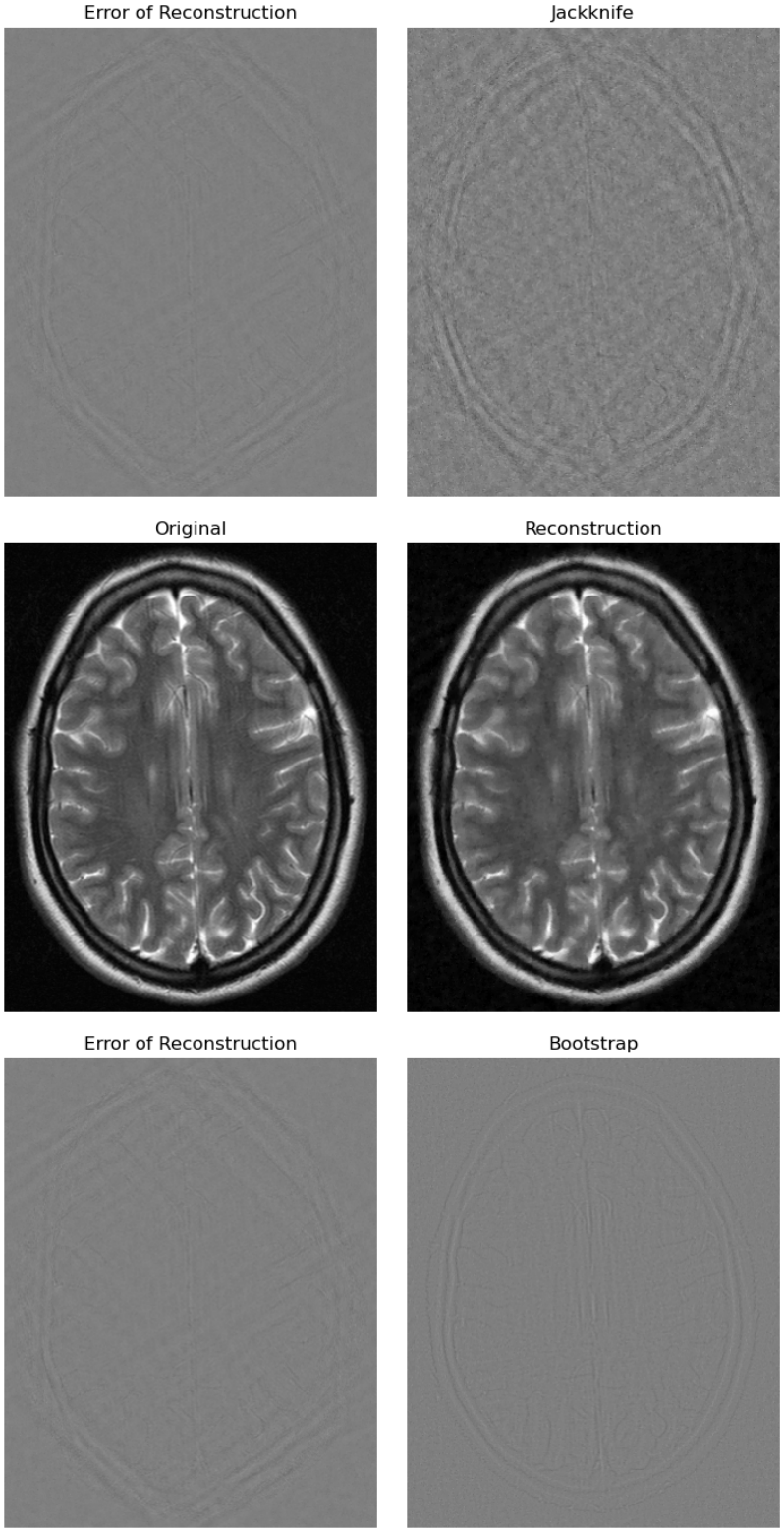


Figure 56: 2× radially retained sampling — slice 16

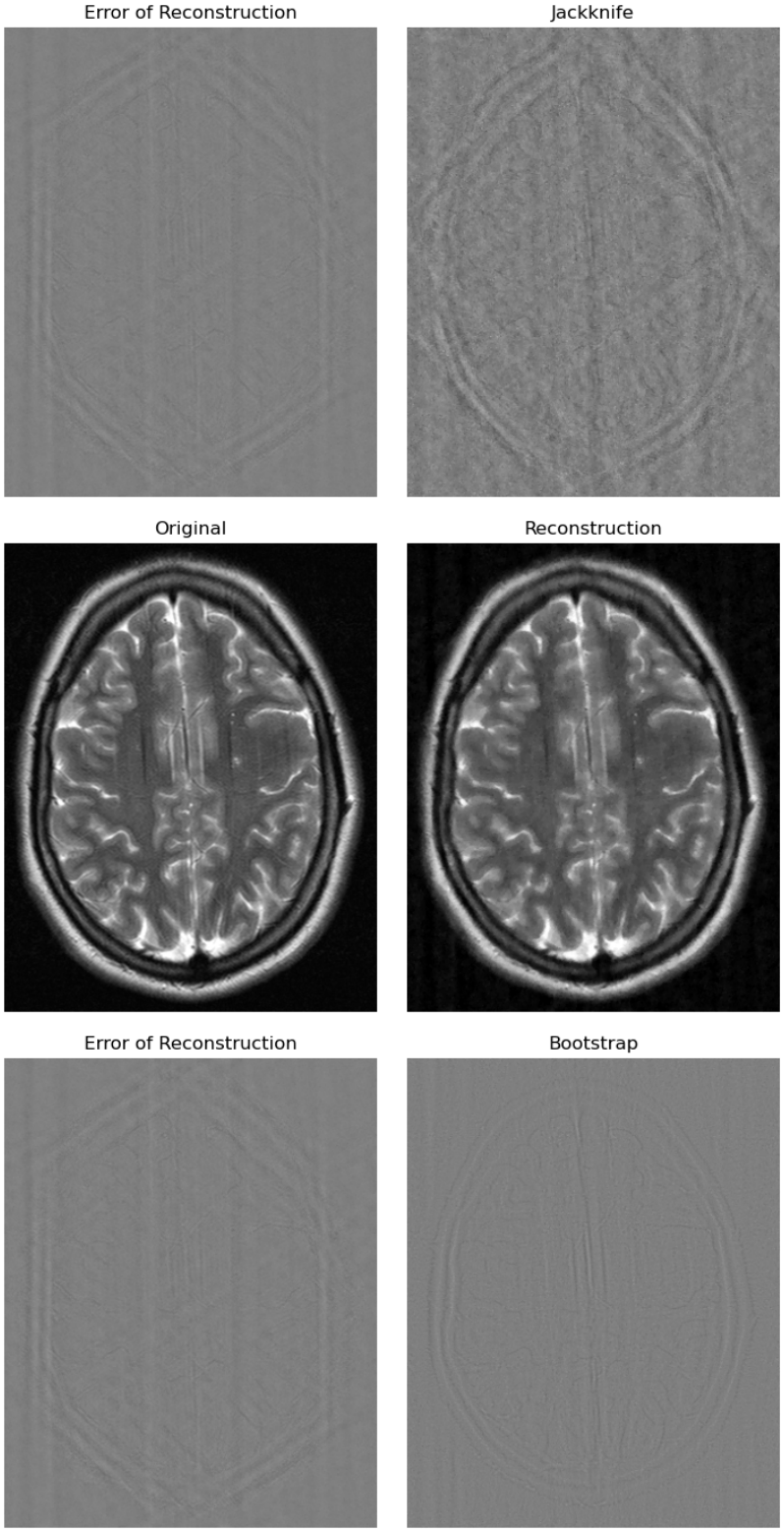


Figure 57: 2× radially retained sampling — slice 17

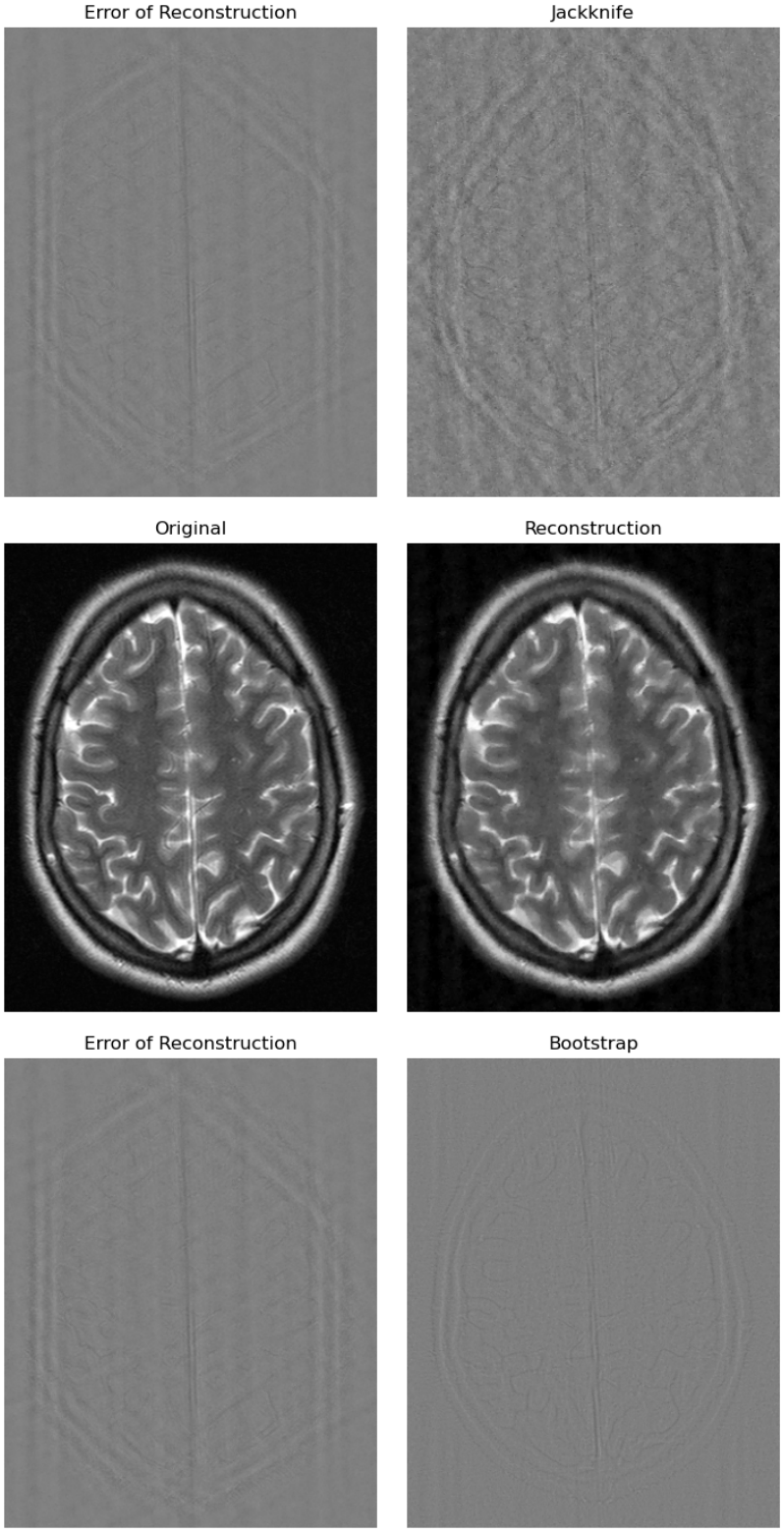


Figure 58: 2× radially retained sampling — slice 18

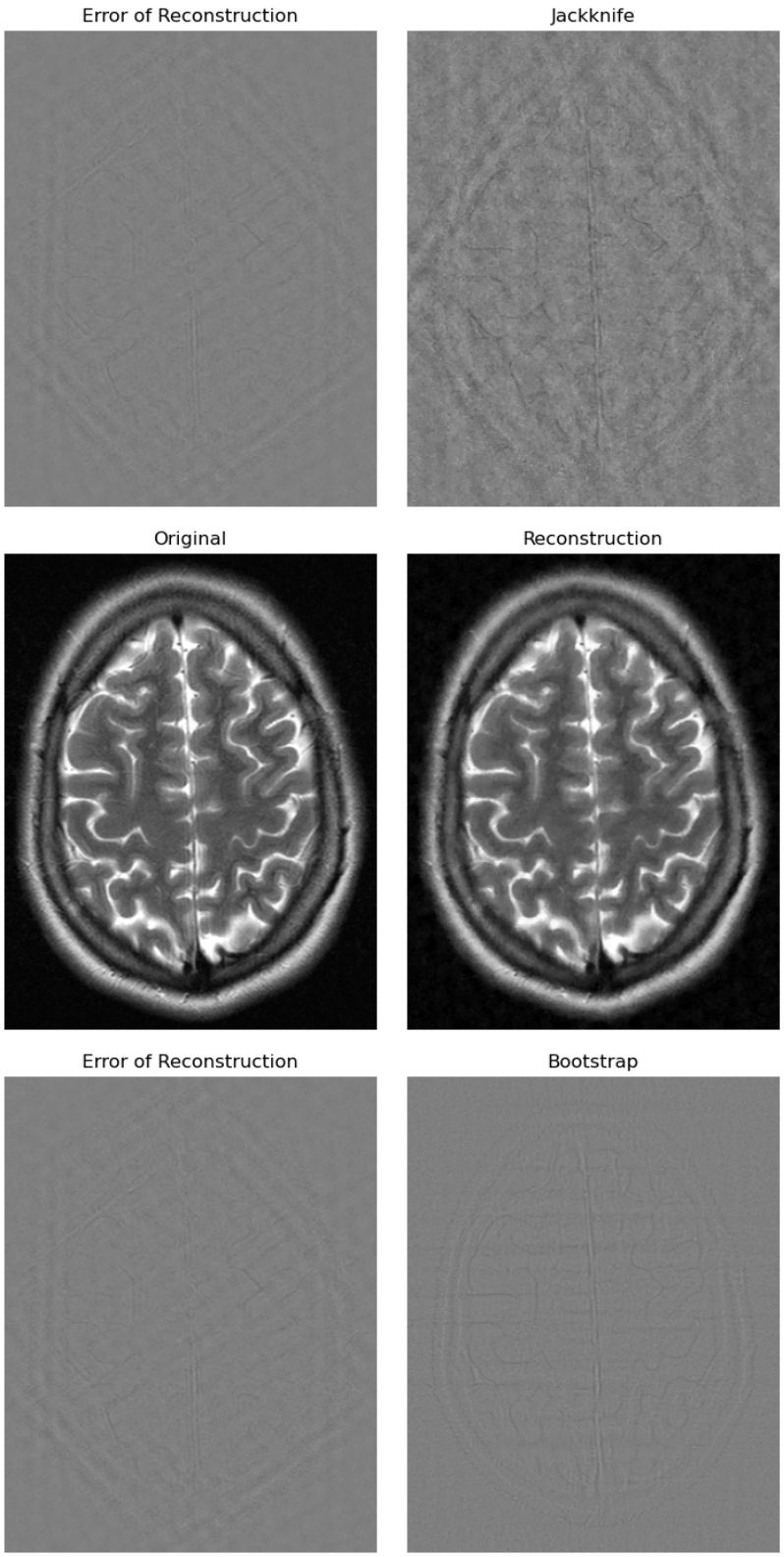


Figure 59: 2× radially retained sampling — slice 19

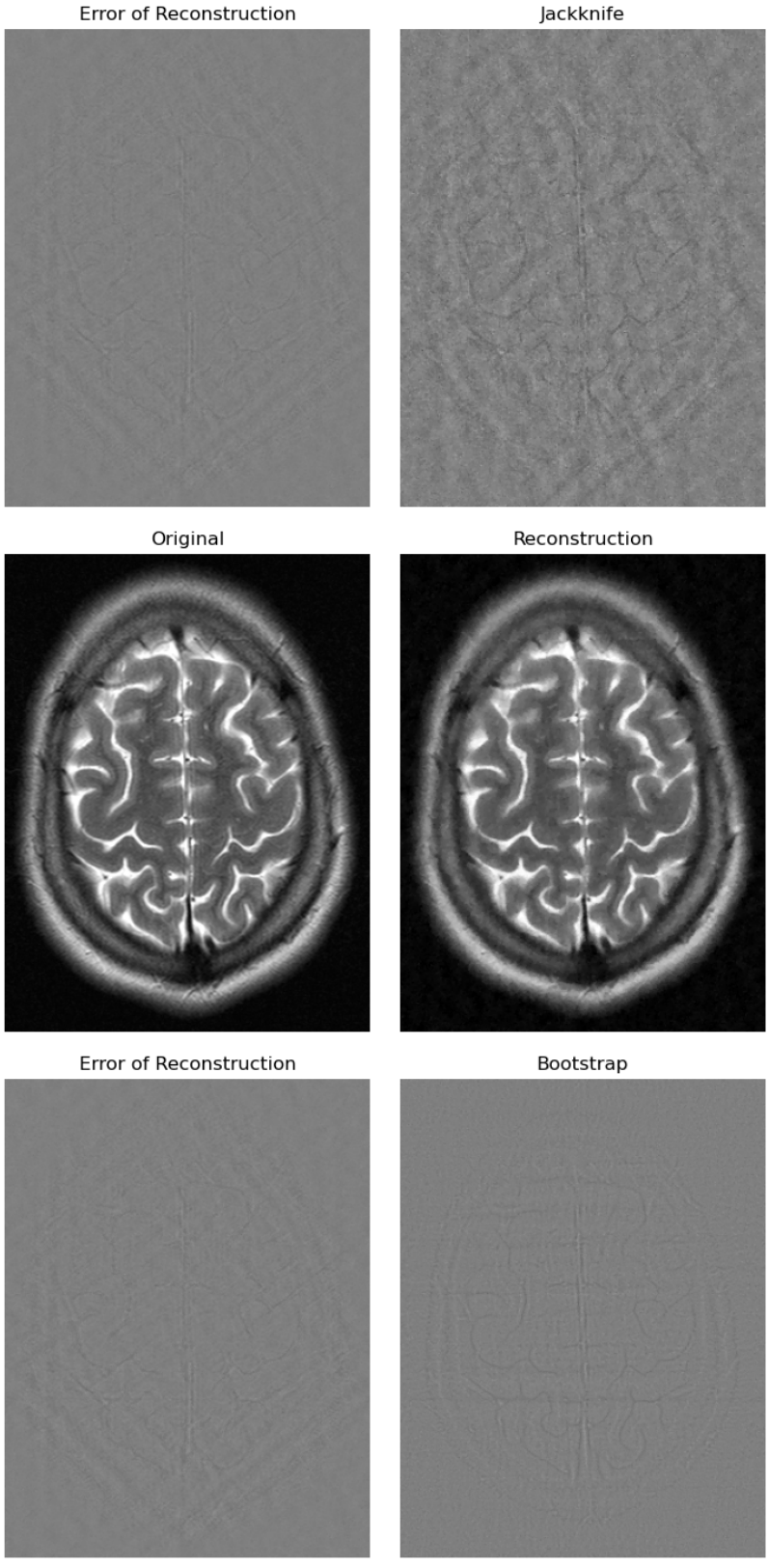


Figure 60: 2× radially retained sampling — slice 20

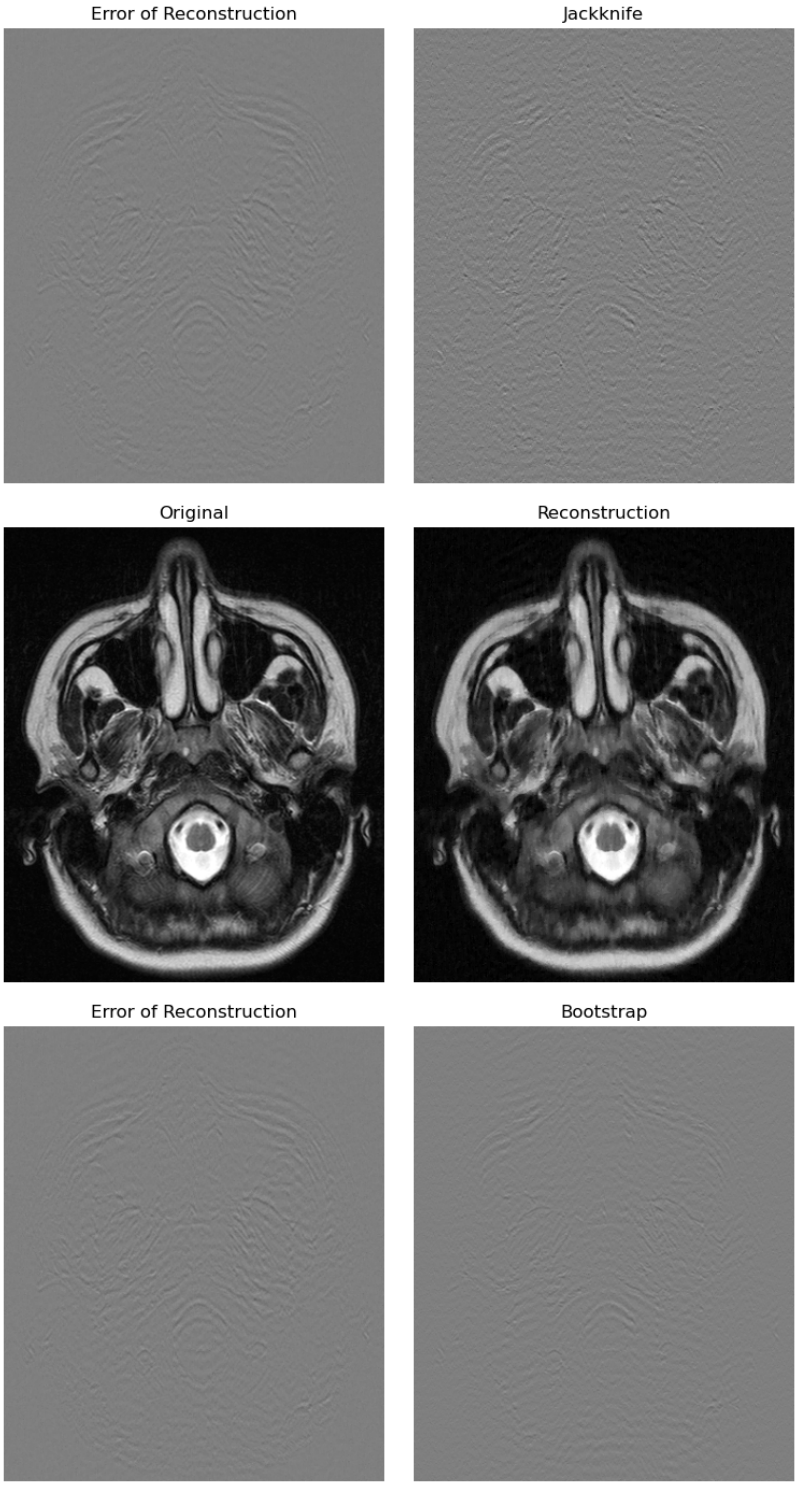


Figure 61: 2× horizontally retained sampling — slice 1

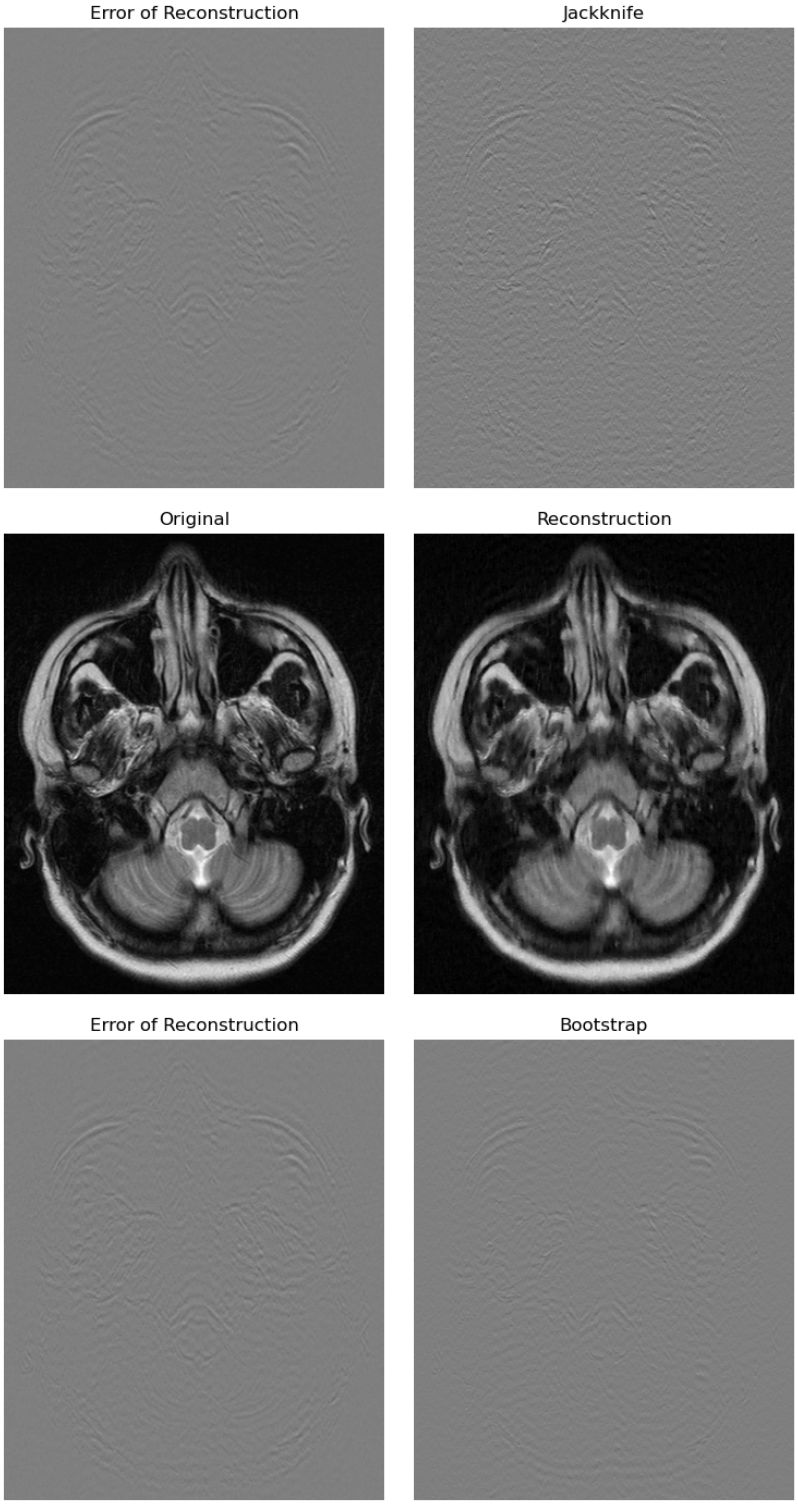


Figure 62: 2× horizontally retained sampling — slice 2

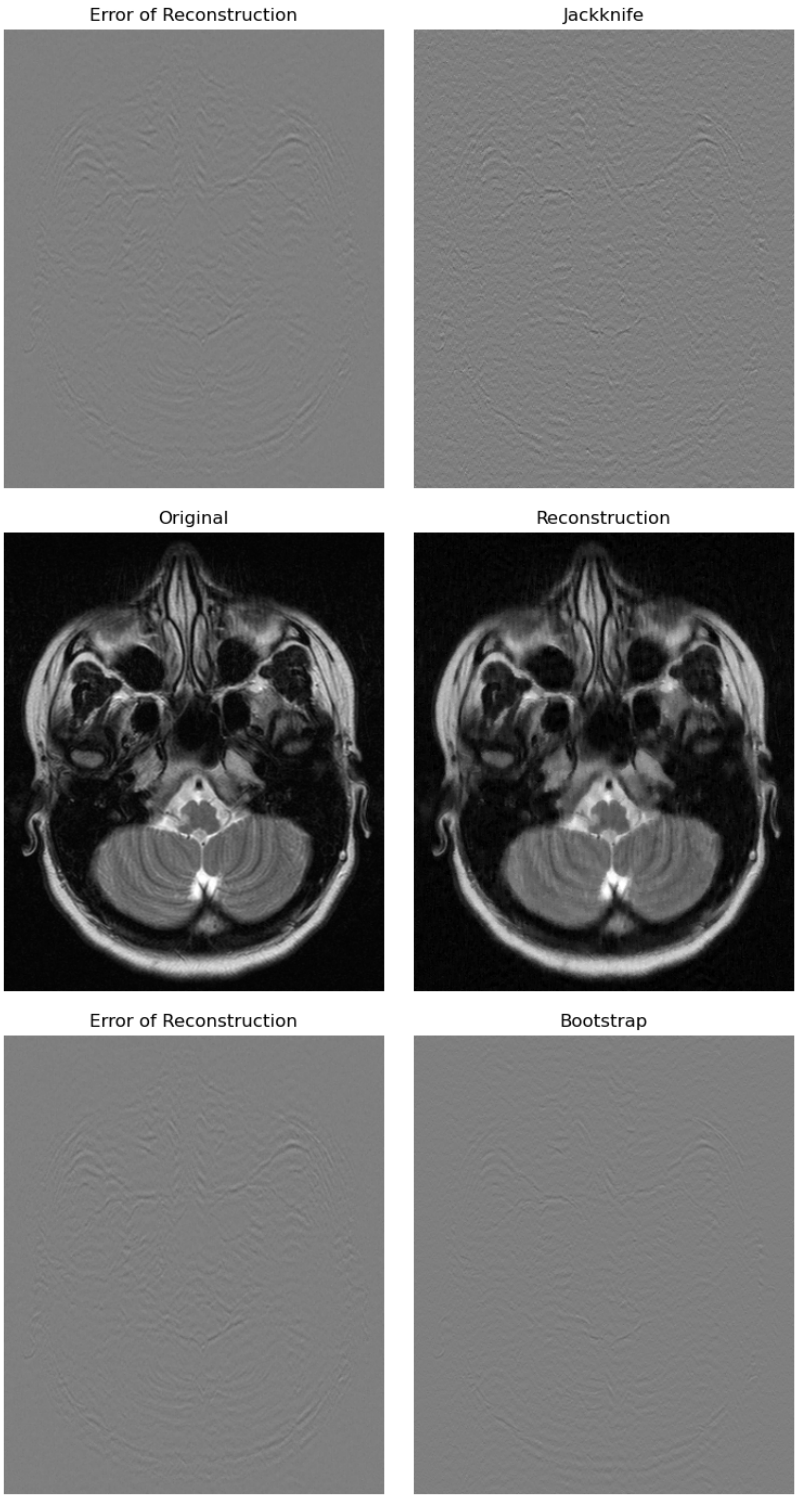


Figure 63: 2× horizontally retained sampling — slice 3

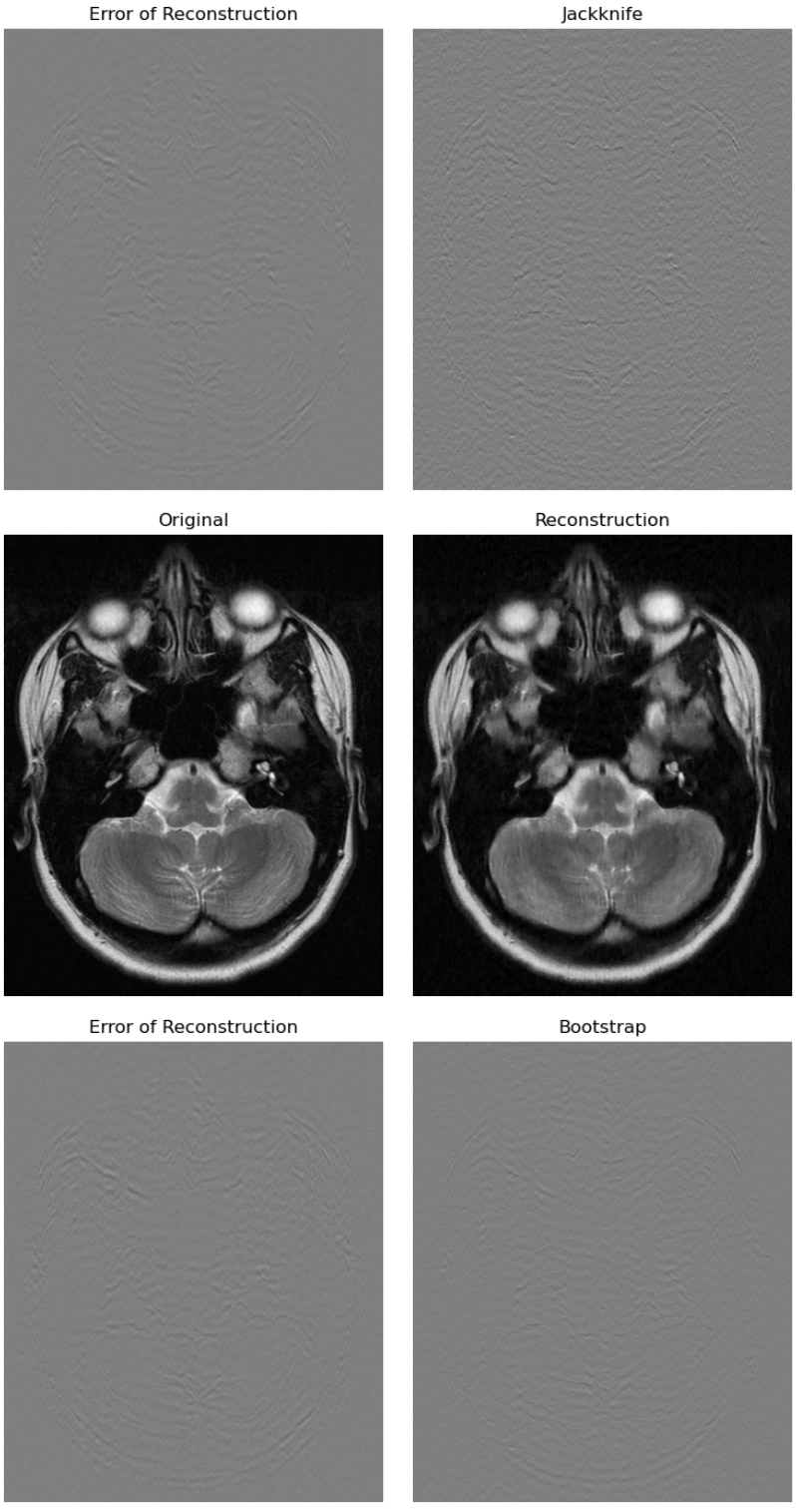


Figure 64: 2× horizontally retained sampling — slice 4

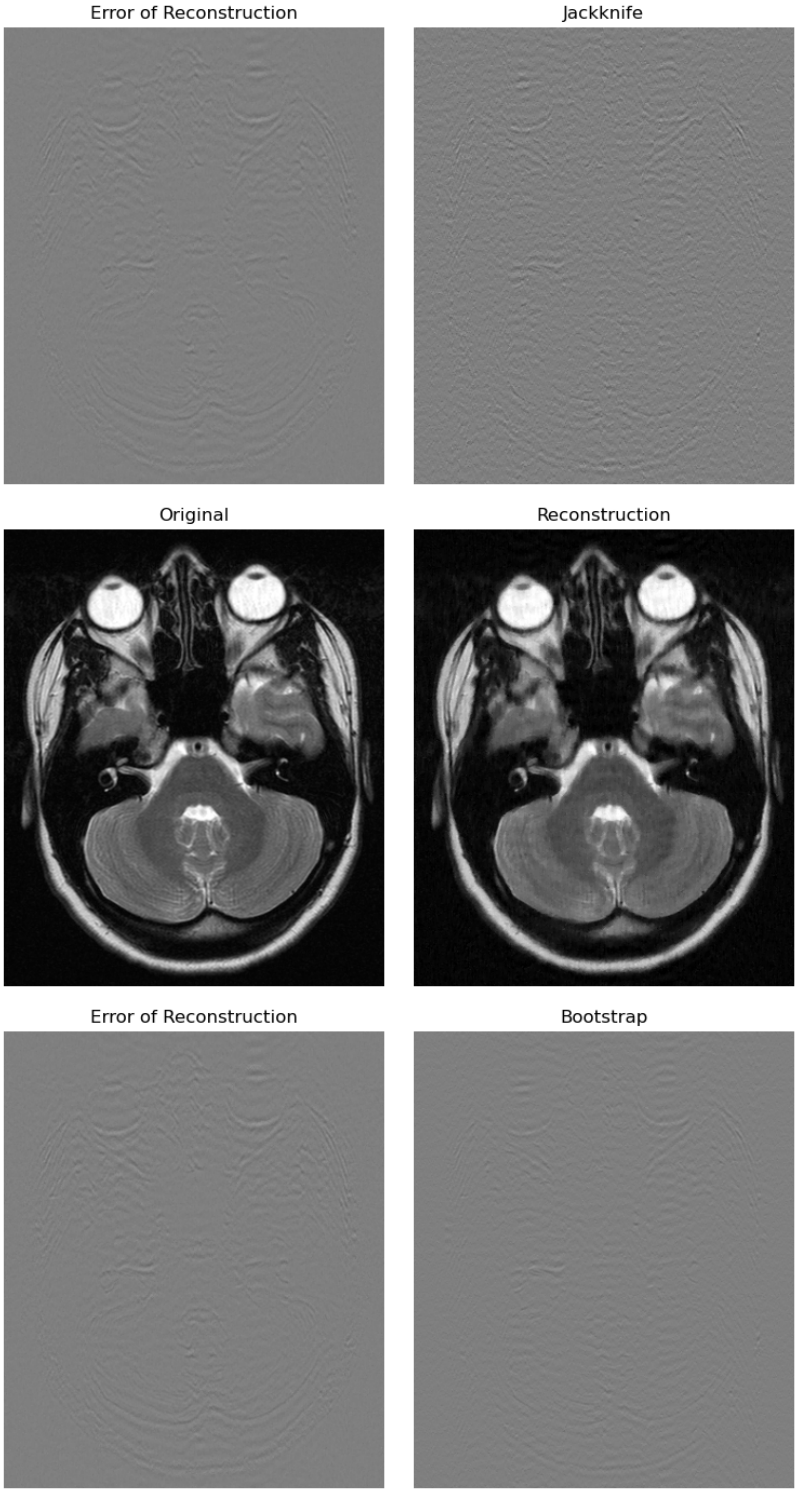


Figure 65: 2× horizontally retained sampling — slice 5

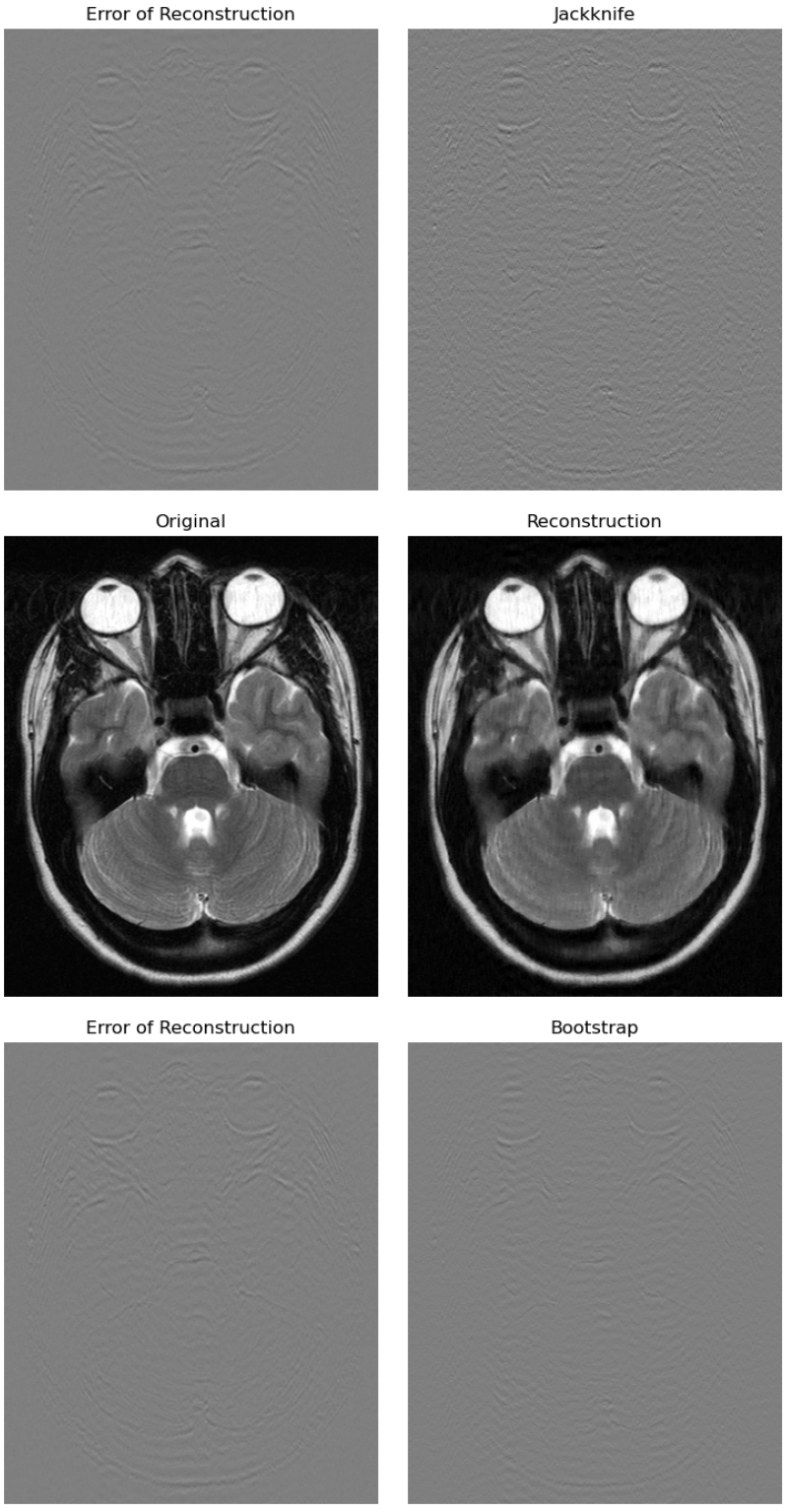


Figure 66: 2× horizontally retained sampling — slice 6

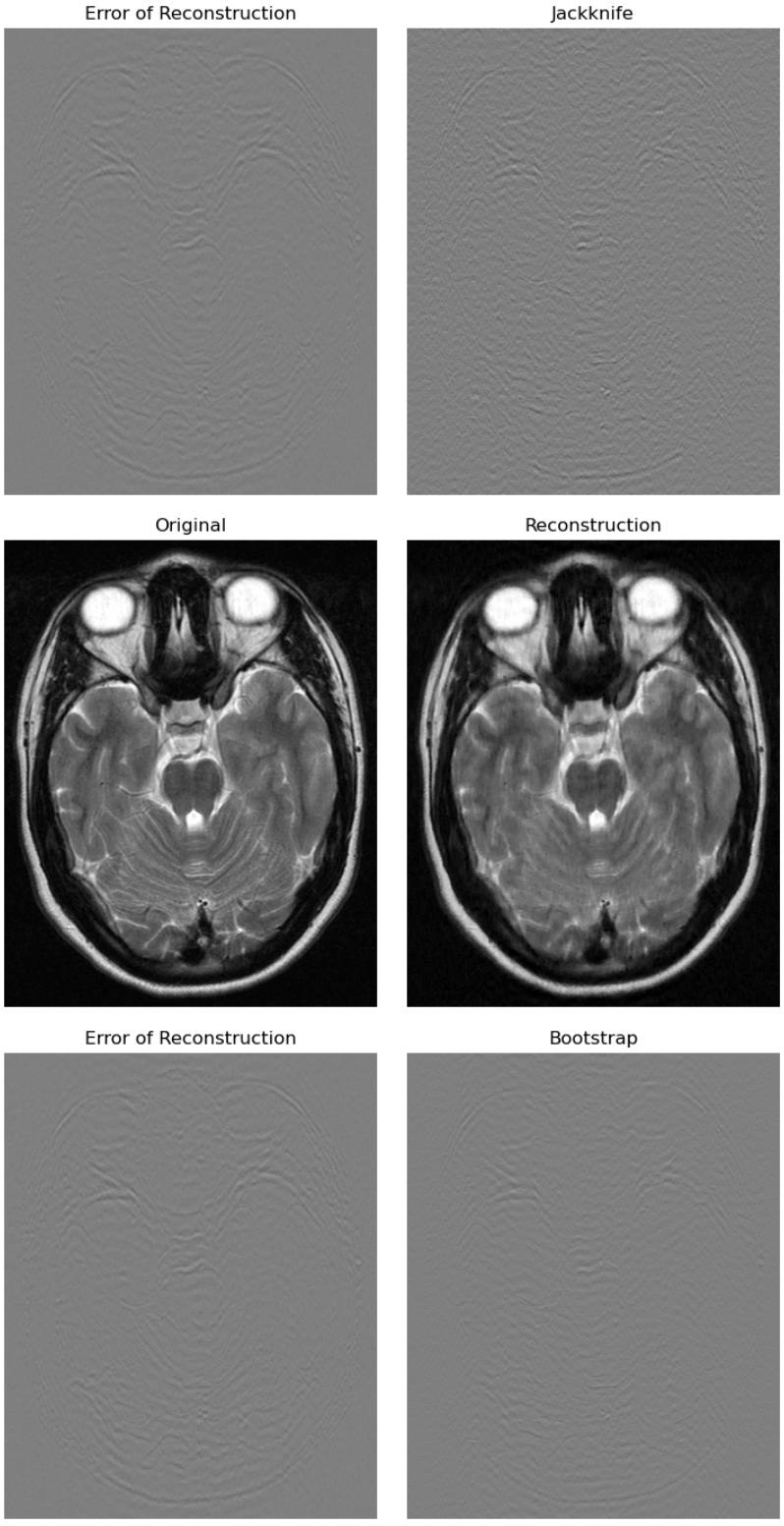


Figure 67: 2× horizontally retained sampling — slice 7

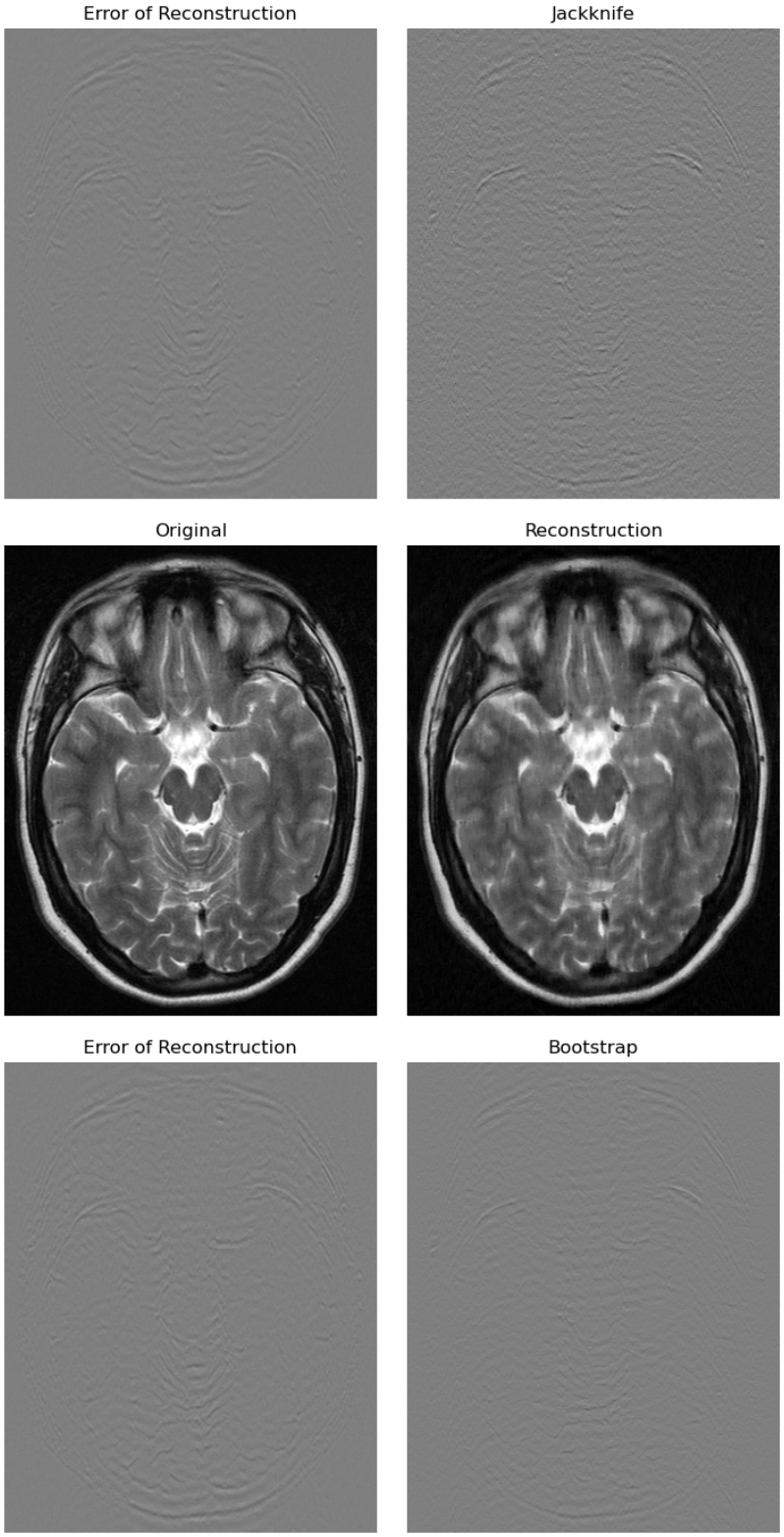


Figure 68: 2× horizontally retained sampling — slice 8

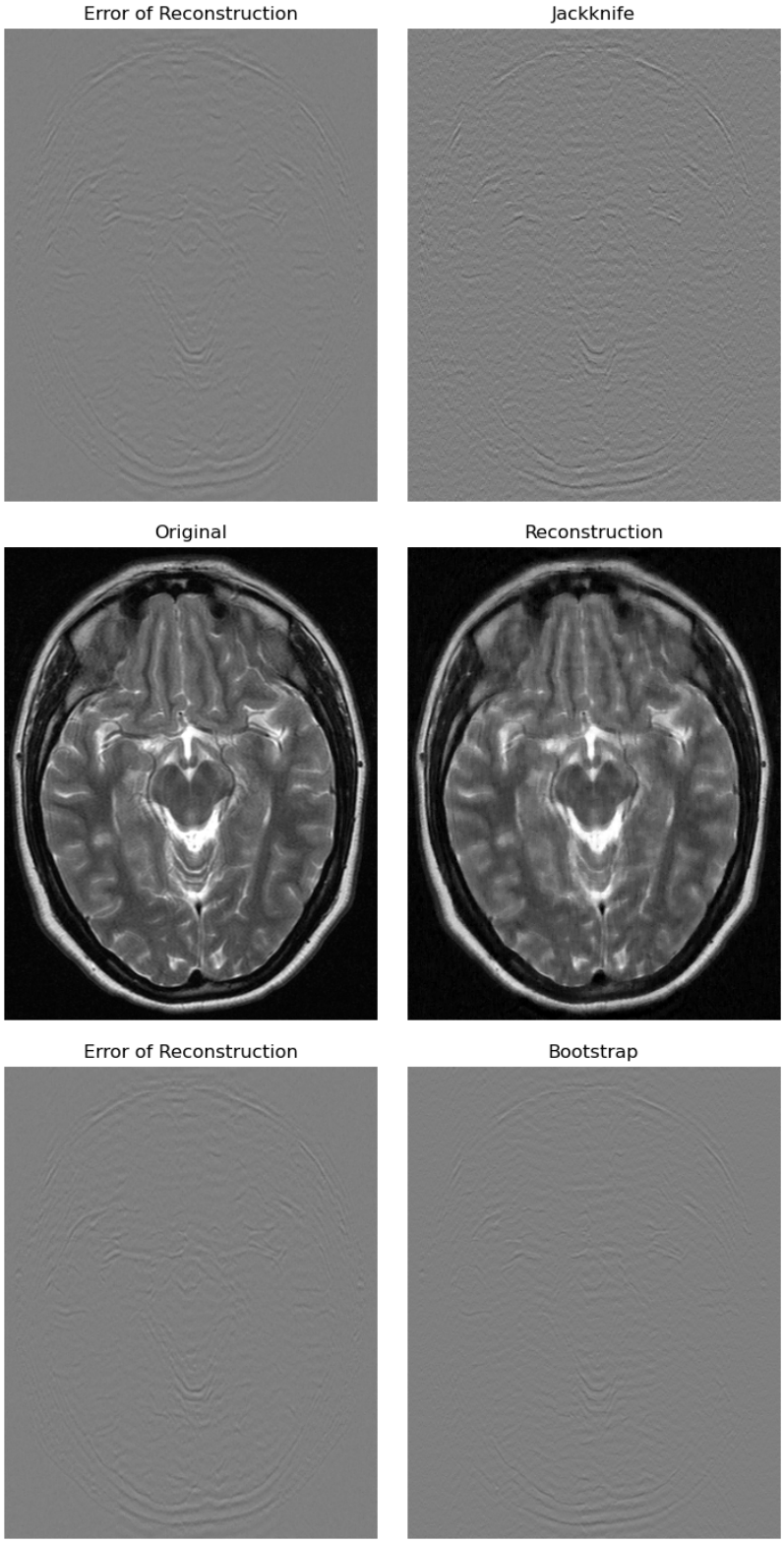


Figure 69: 2× horizontally retained sampling — slice 9

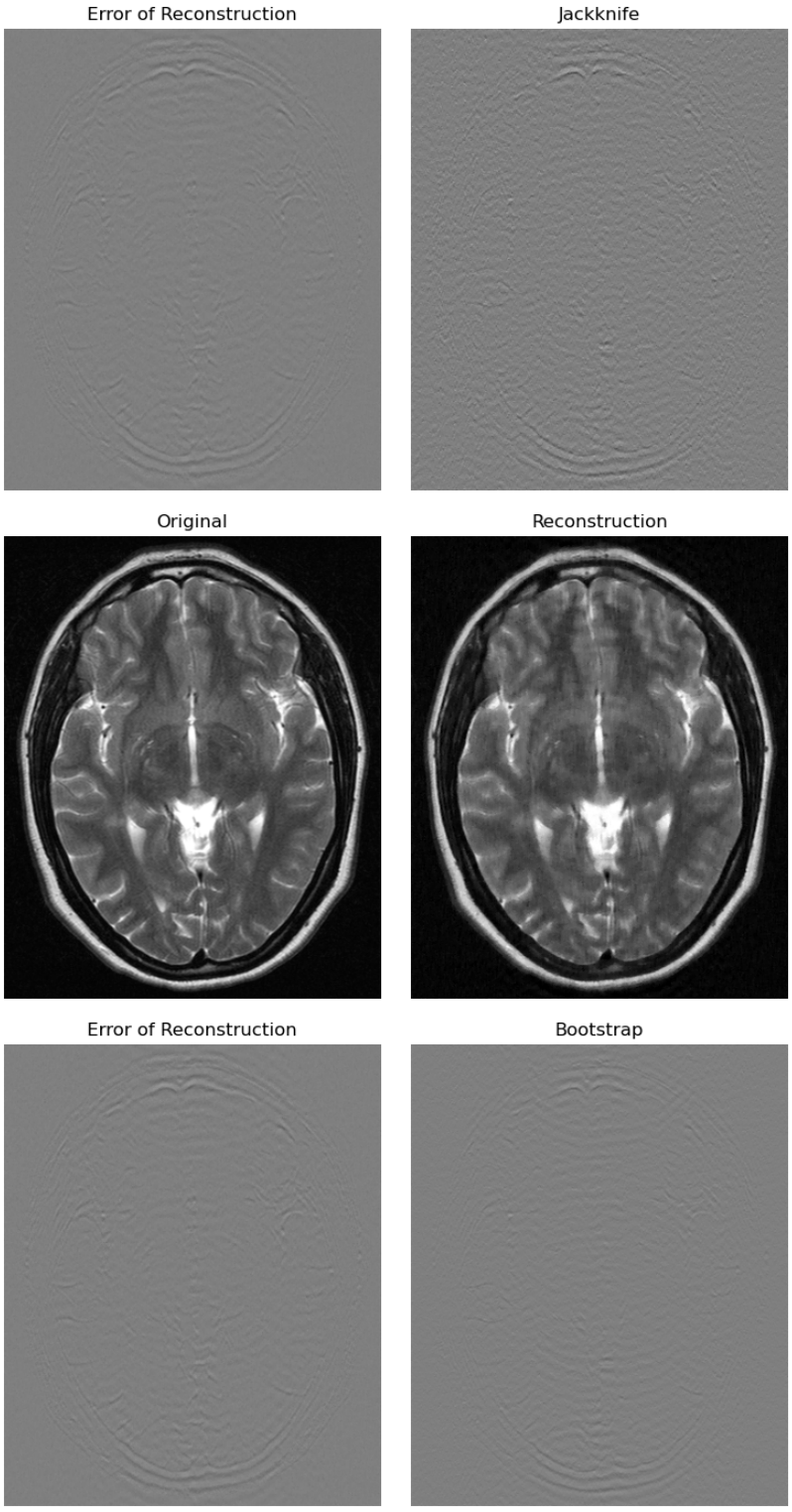


Figure 70: 2× horizontally retained sampling — slice 10

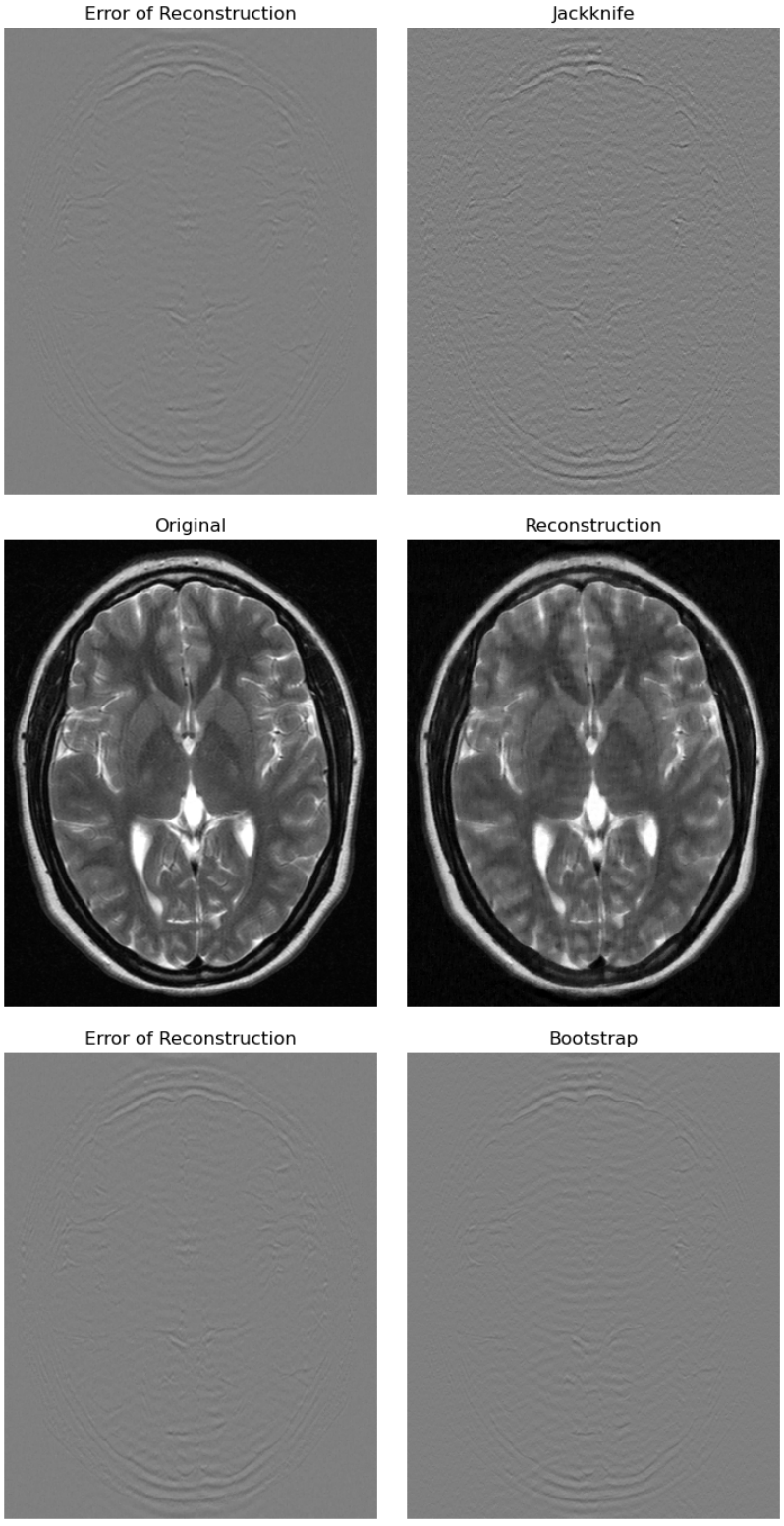


Figure 71: 2× horizontally retained sampling — slice 11

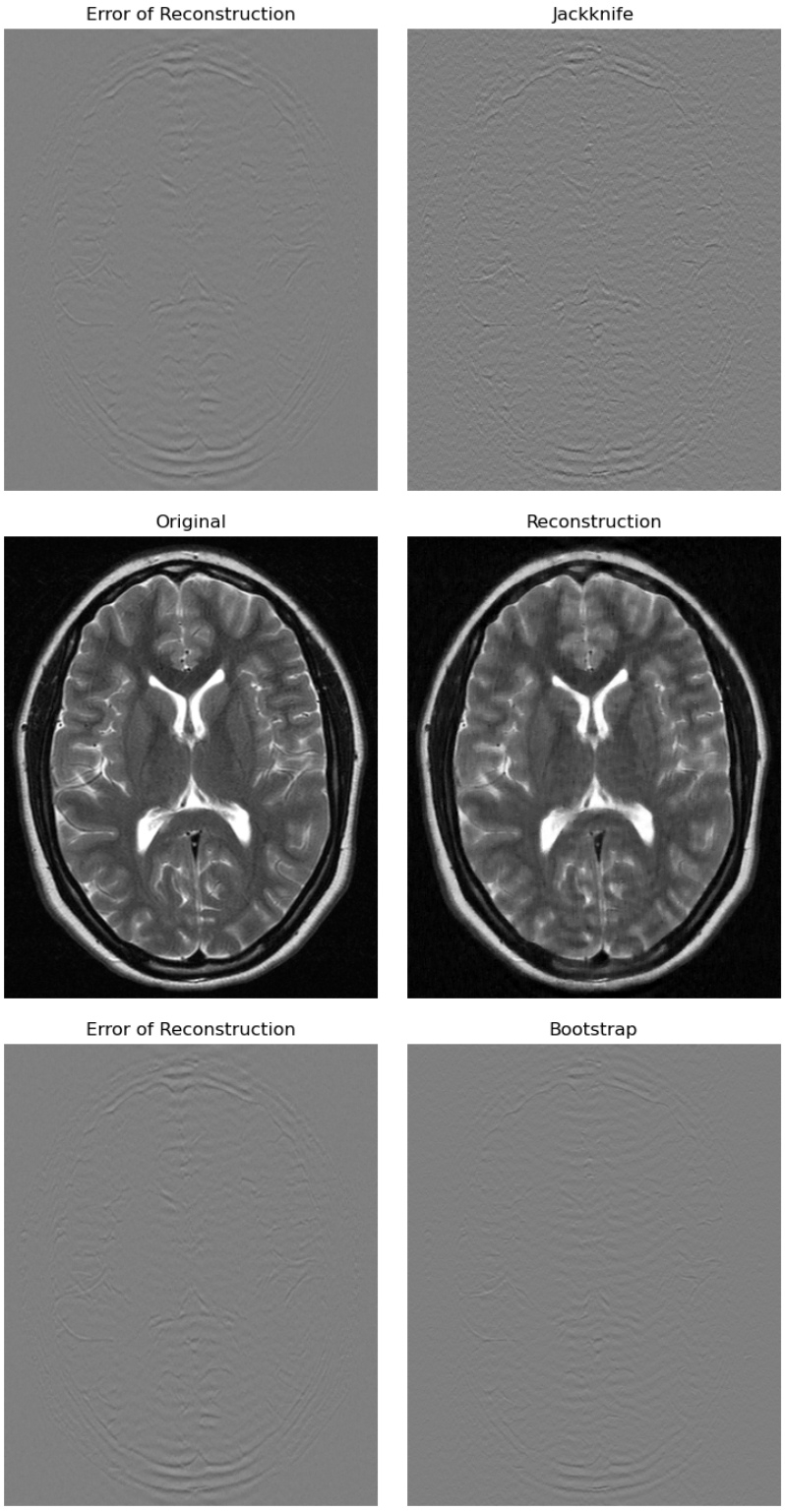


Figure 72: 2× horizontally retained sampling — slice 12

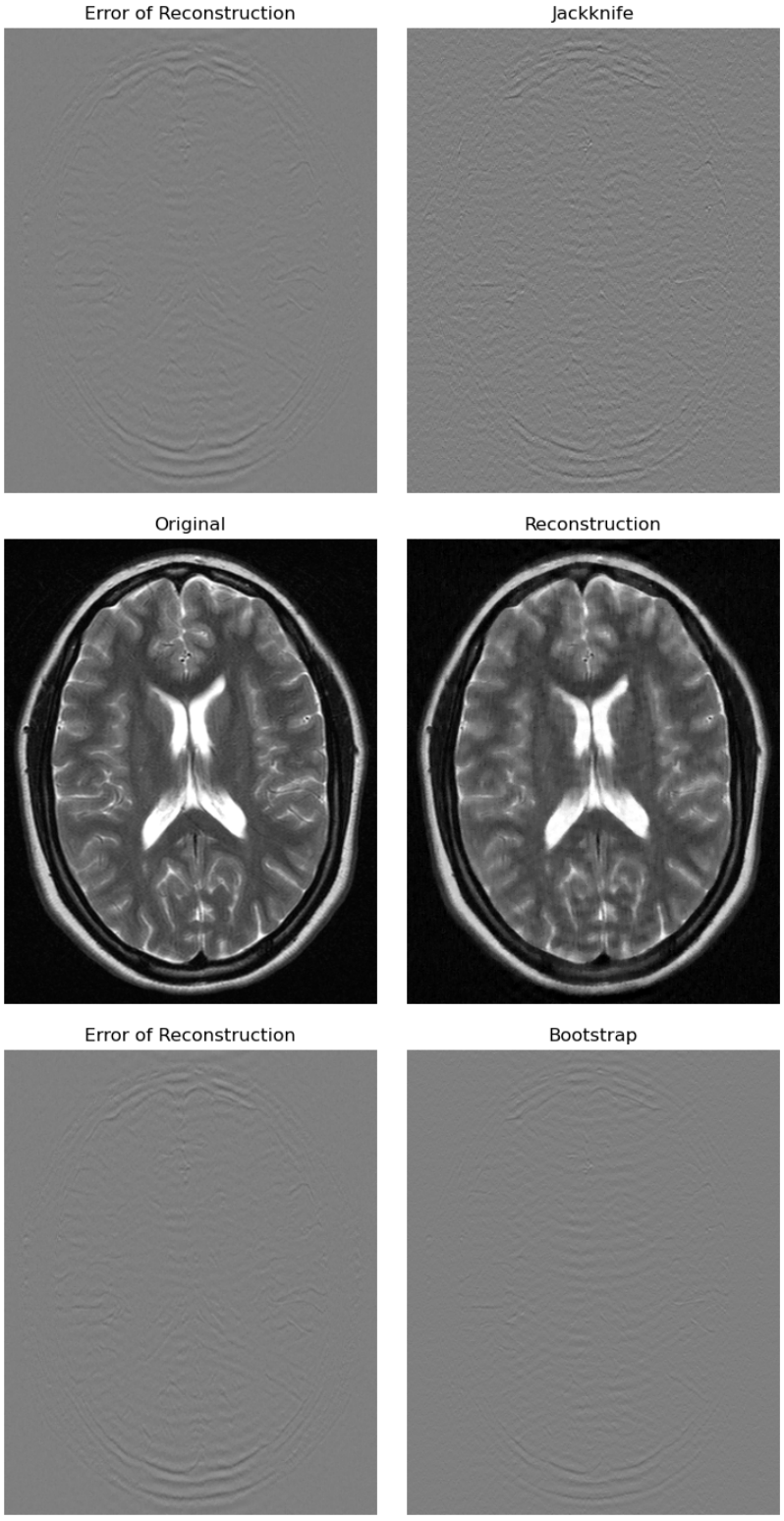


Figure 73: 2× horizontally retained sampling — slice 13

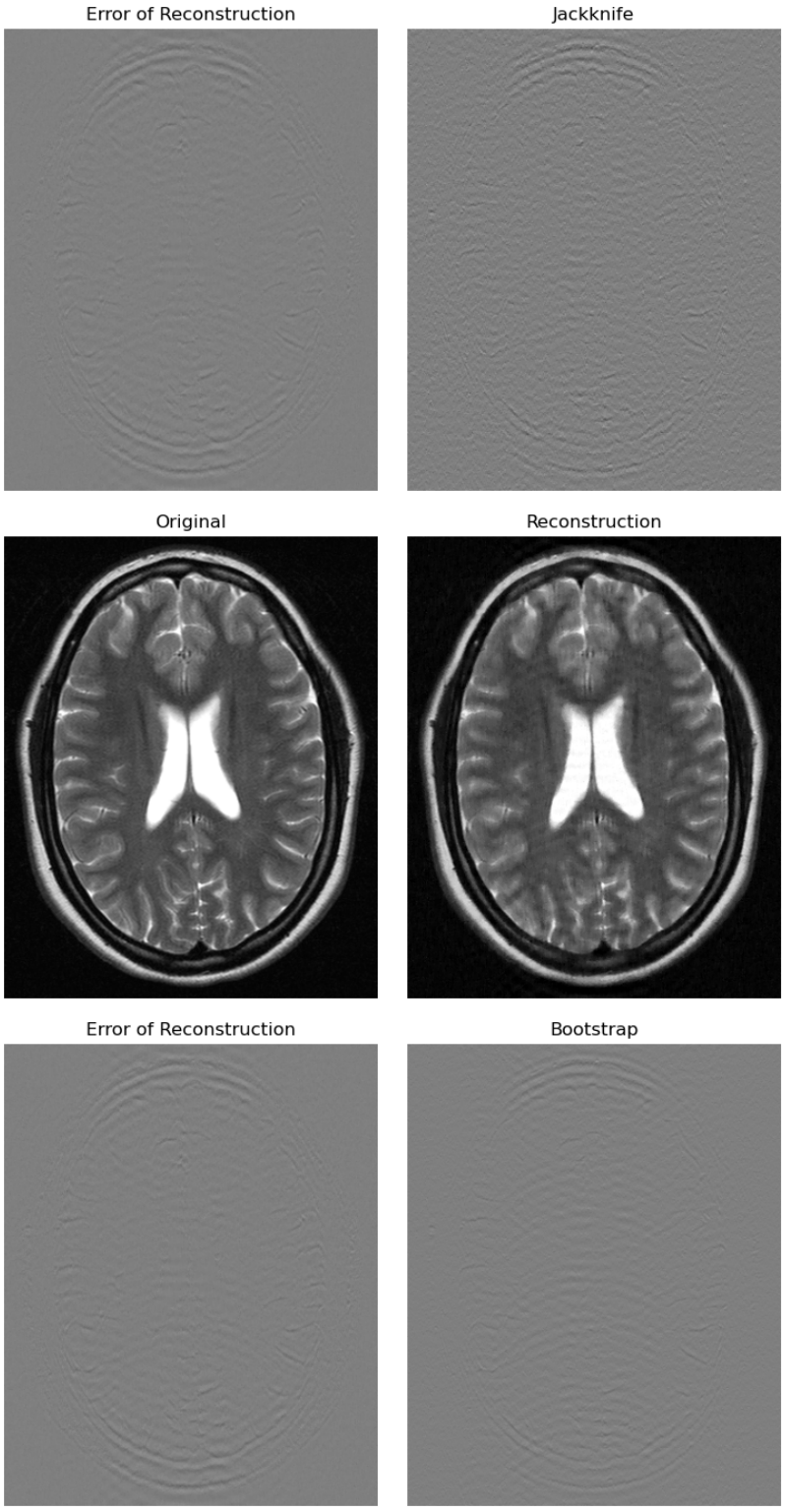


Figure 74: 2× horizontally retained sampling — slice 14

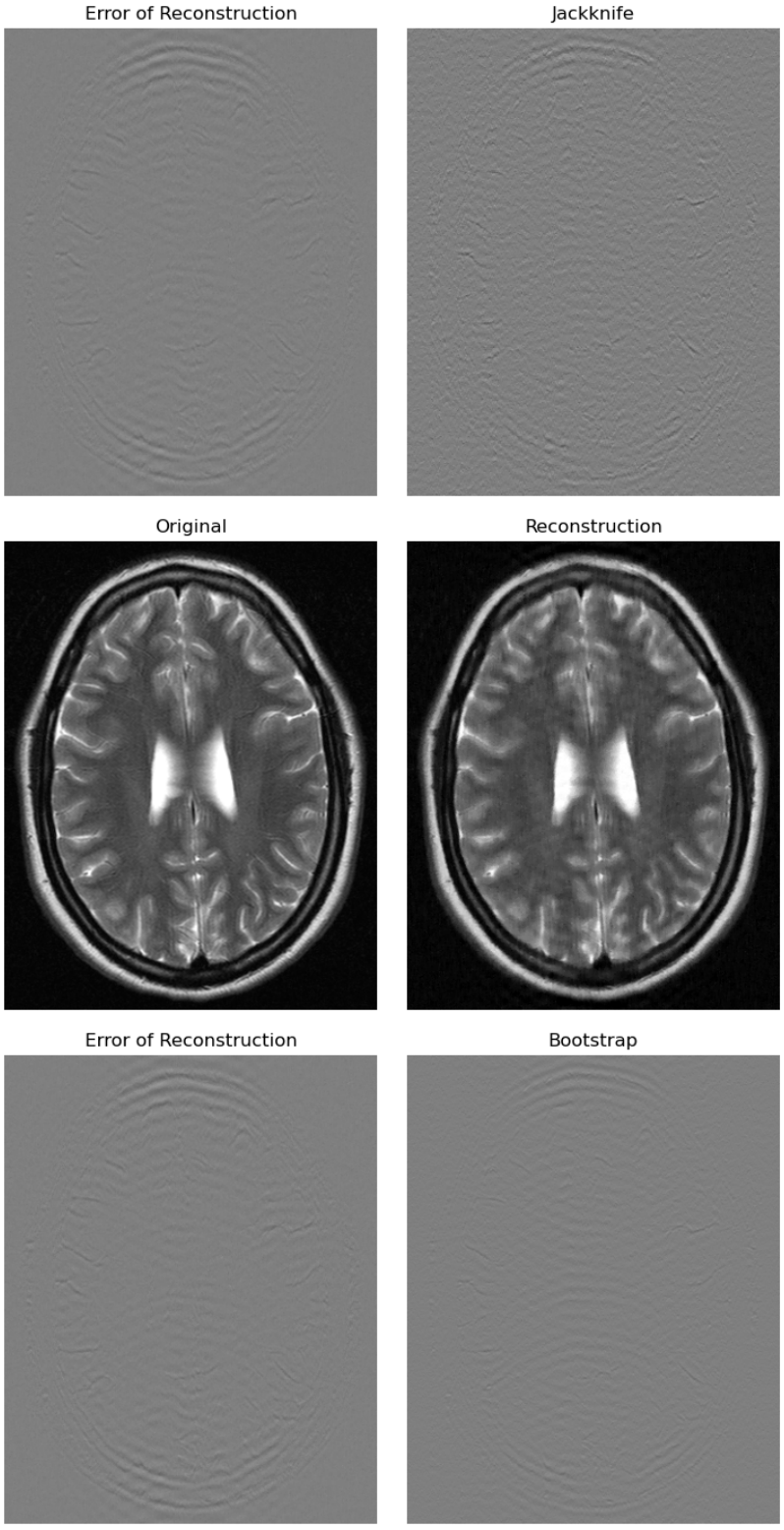


Figure 75: 2× horizontally retained sampling — slice 15

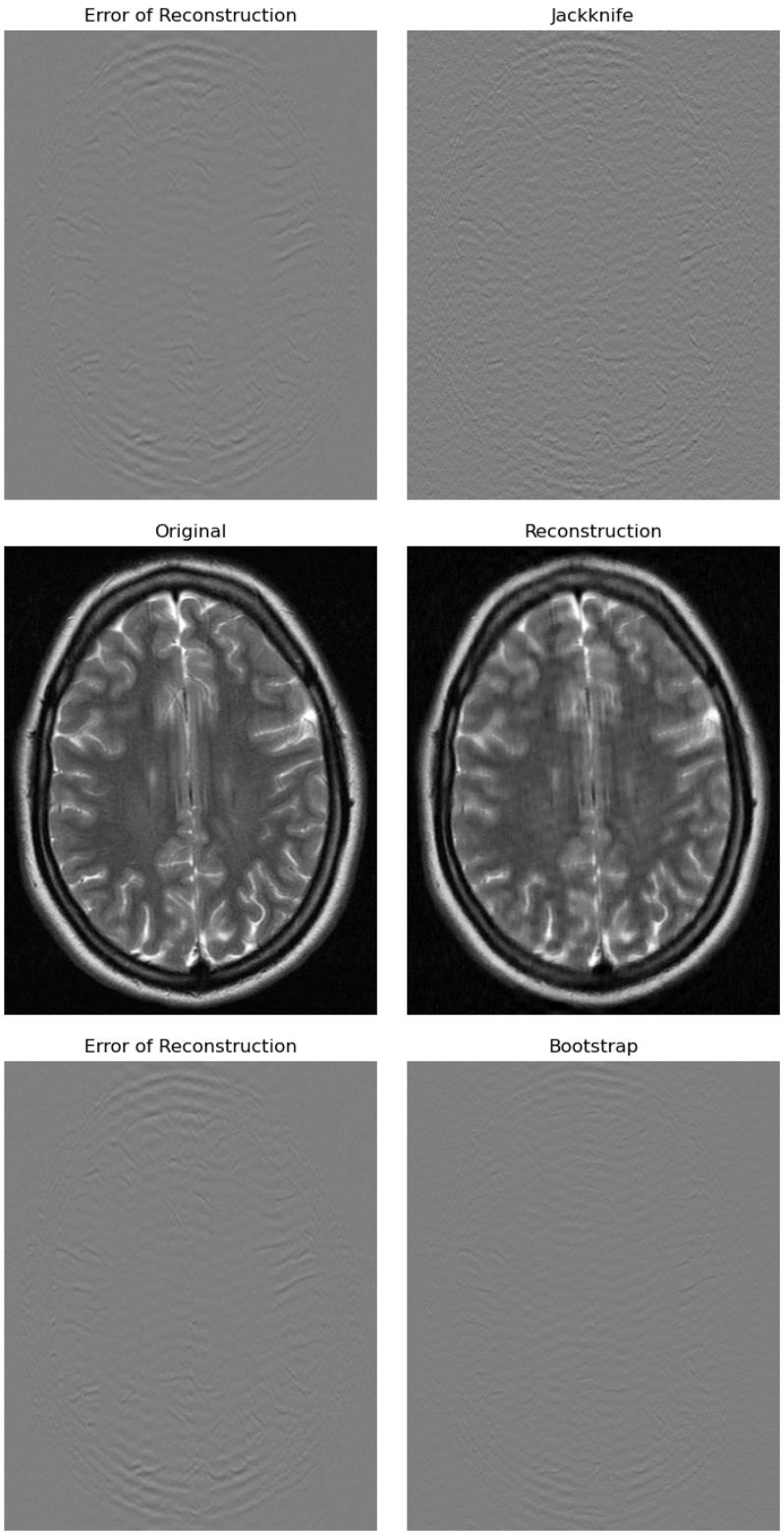


Figure 76: 2× horizontally retained sampling — slice 16

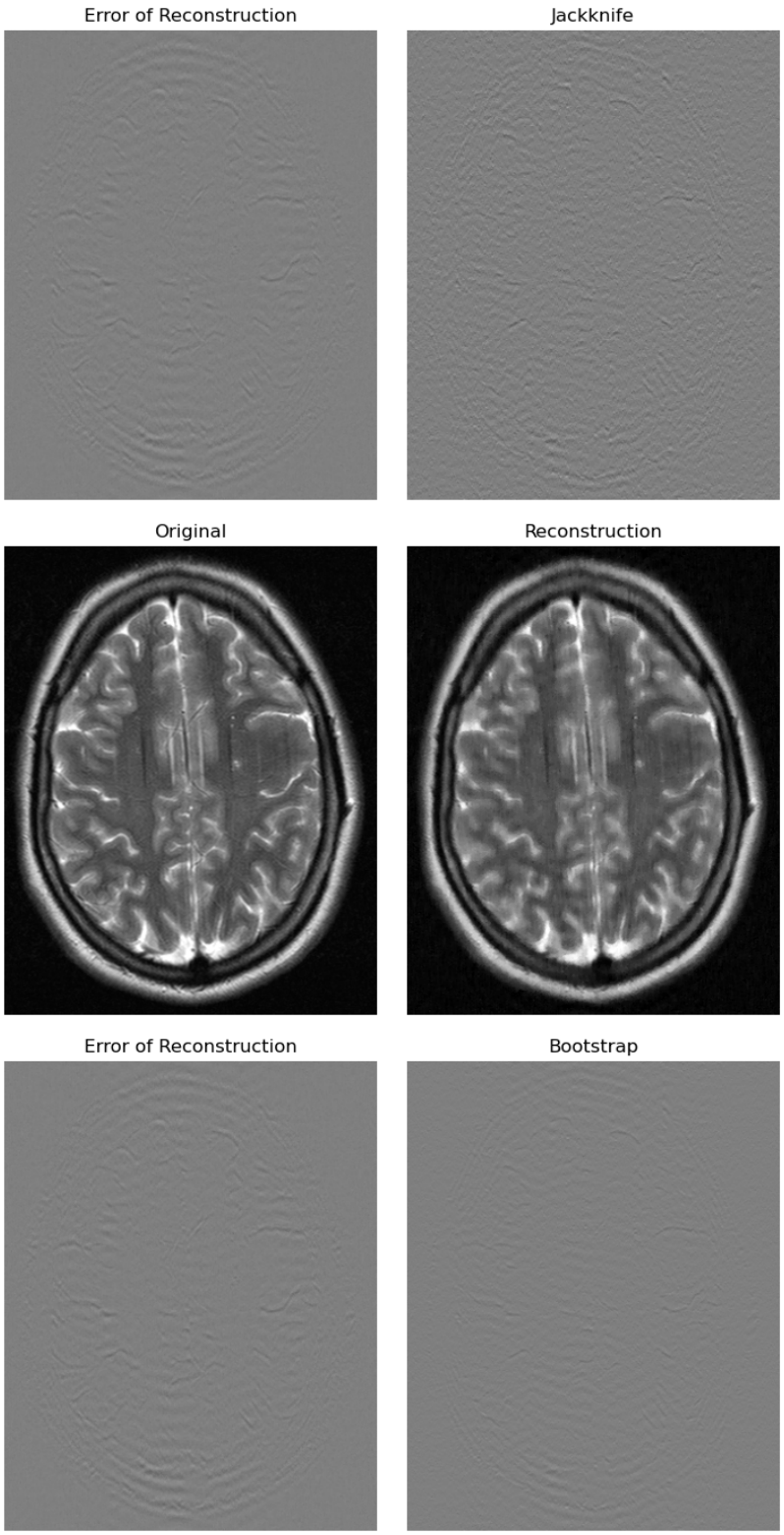


Figure 77: 2× horizontally retained sampling — slice 17

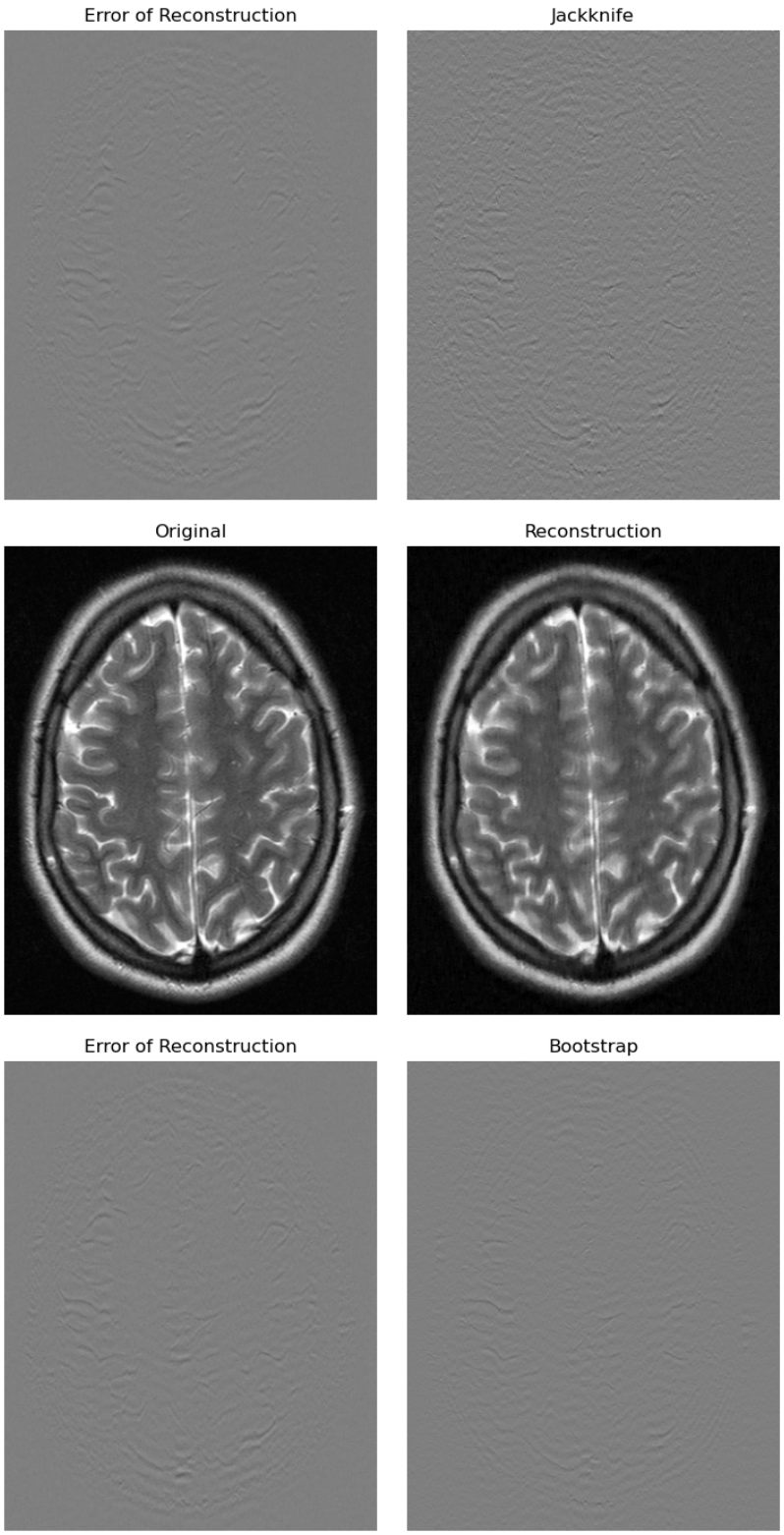


Figure 78: 2× horizontally retained sampling — slice 18

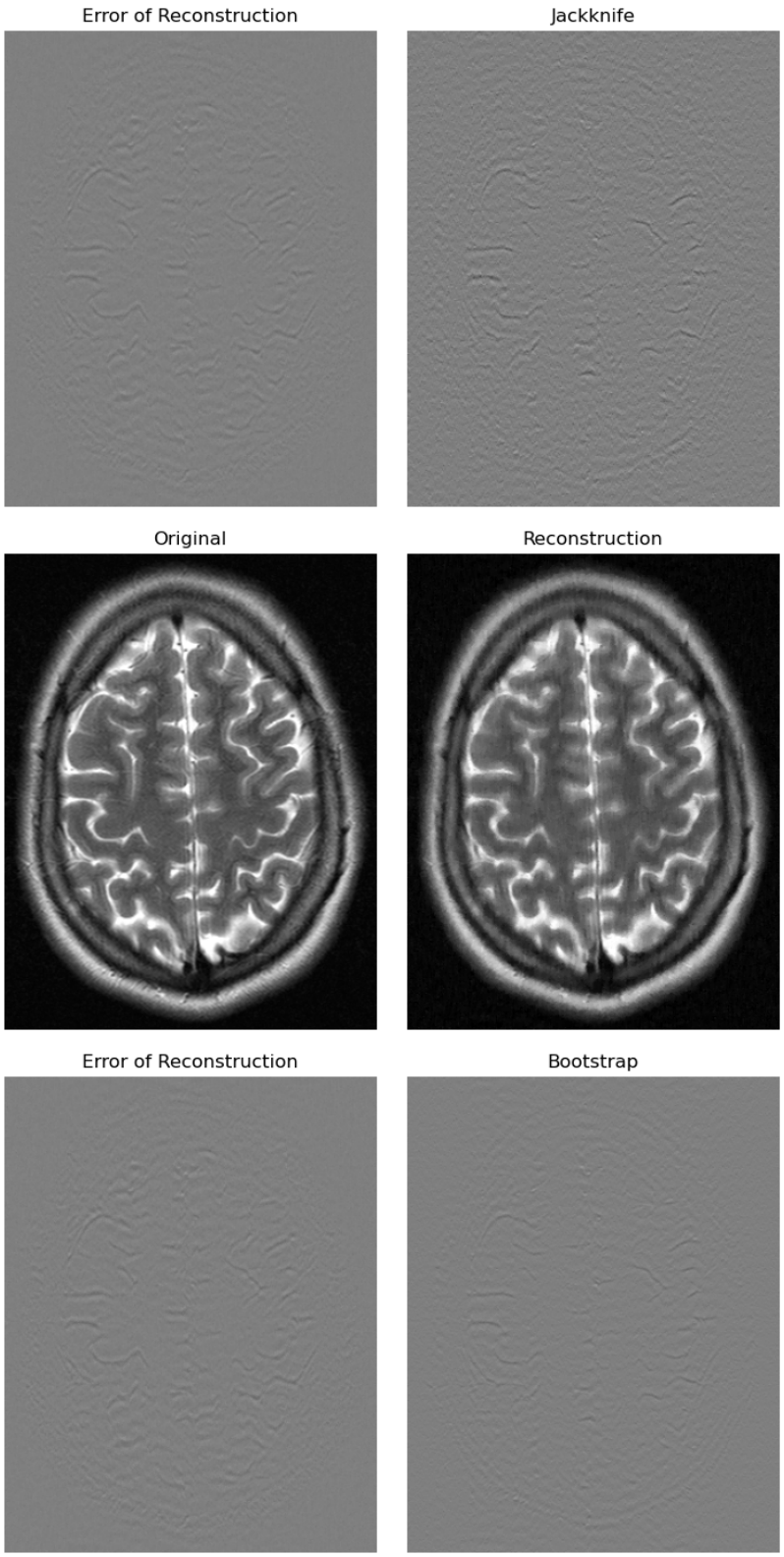


Figure 79: 2× horizontally retained sampling — slice 19

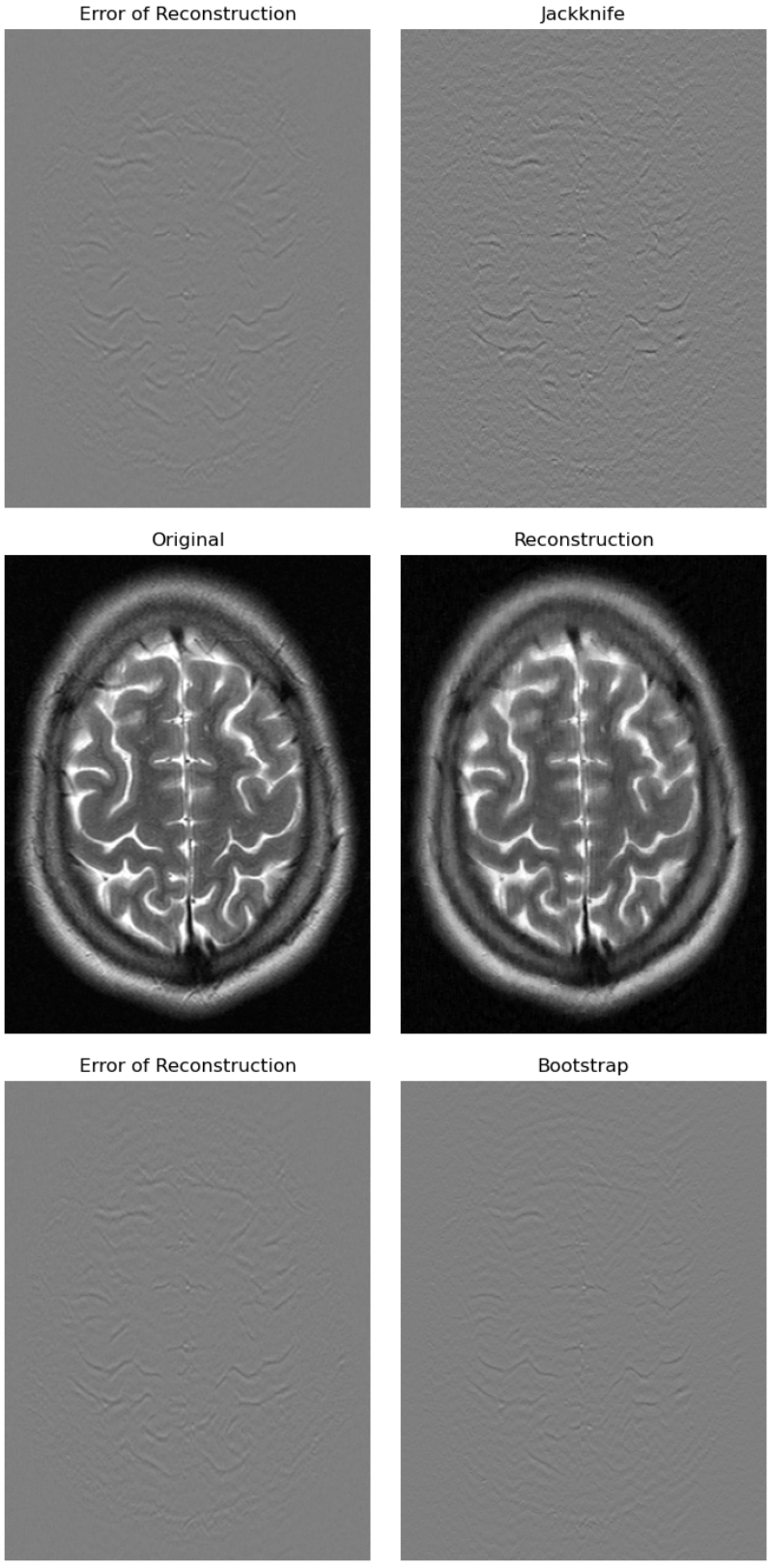


Figure 80: 2× horizontally retained sampling — slice 20

# B. Blurred errors over a threshold overlaid

For reference, this appendix displays the same errors over a threshold overlaid over the reconstruction as in Subsection 2.2, together with the blurred errors over a threshold overlaid over the reconstruction (blurring with a Gaussian convolutional kernel whose standard deviation is one pixel, as in Subsection 2.3). The labeling conventions ("lower," "upper," etc.) conform to those introduced in Section 3. The blurred errors certainly introduce less distracting noise than without blurring, yet the colors still appear really distracting.

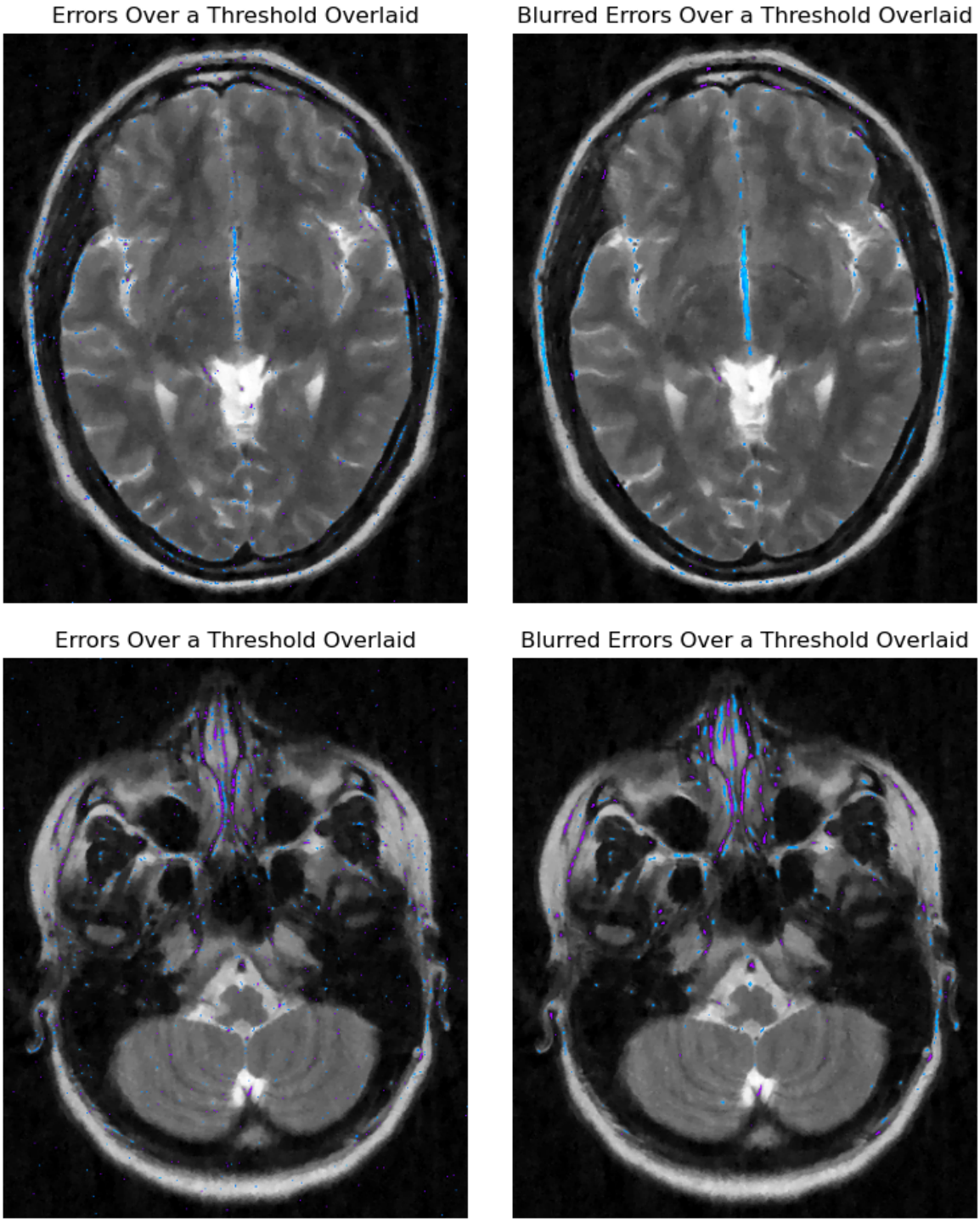


Figure 81: Radially sampling (b) — upper plots display the upper slice; lower plots show the lower

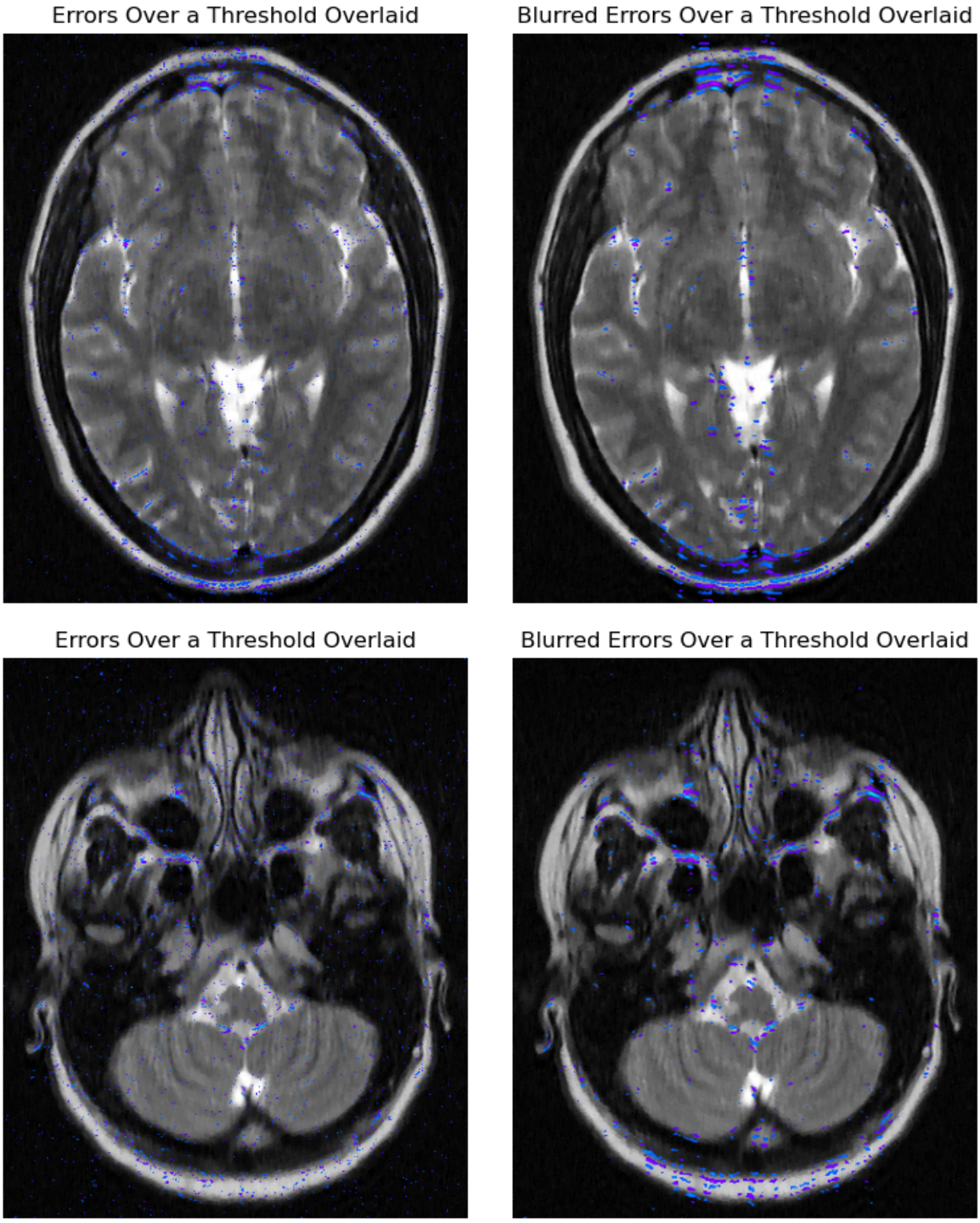


Figure 82: Horizontally sampling (b) — upper plots show the upper slice; lower plots show the lower

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