Active Learning for Interactive Audio-Animatronic® Performance Design
Supplementary Results

Abstract

Collected supplementary results comparisons consisting of triplets for a) error visualization on the predicted pose, b) reference pose, c) prediction pose. The samples include hyper-realistic, humanoid and : Stylized Audio-Animatronic® facial poses. The error visualization shows a colorized plot of signed surface distance with cyan/ blue as positive difference and yellow/red as negative error. A histogram overlay shows the error frequency distribution. MinV and MaxV are minimum and maximum error distance values in meters.
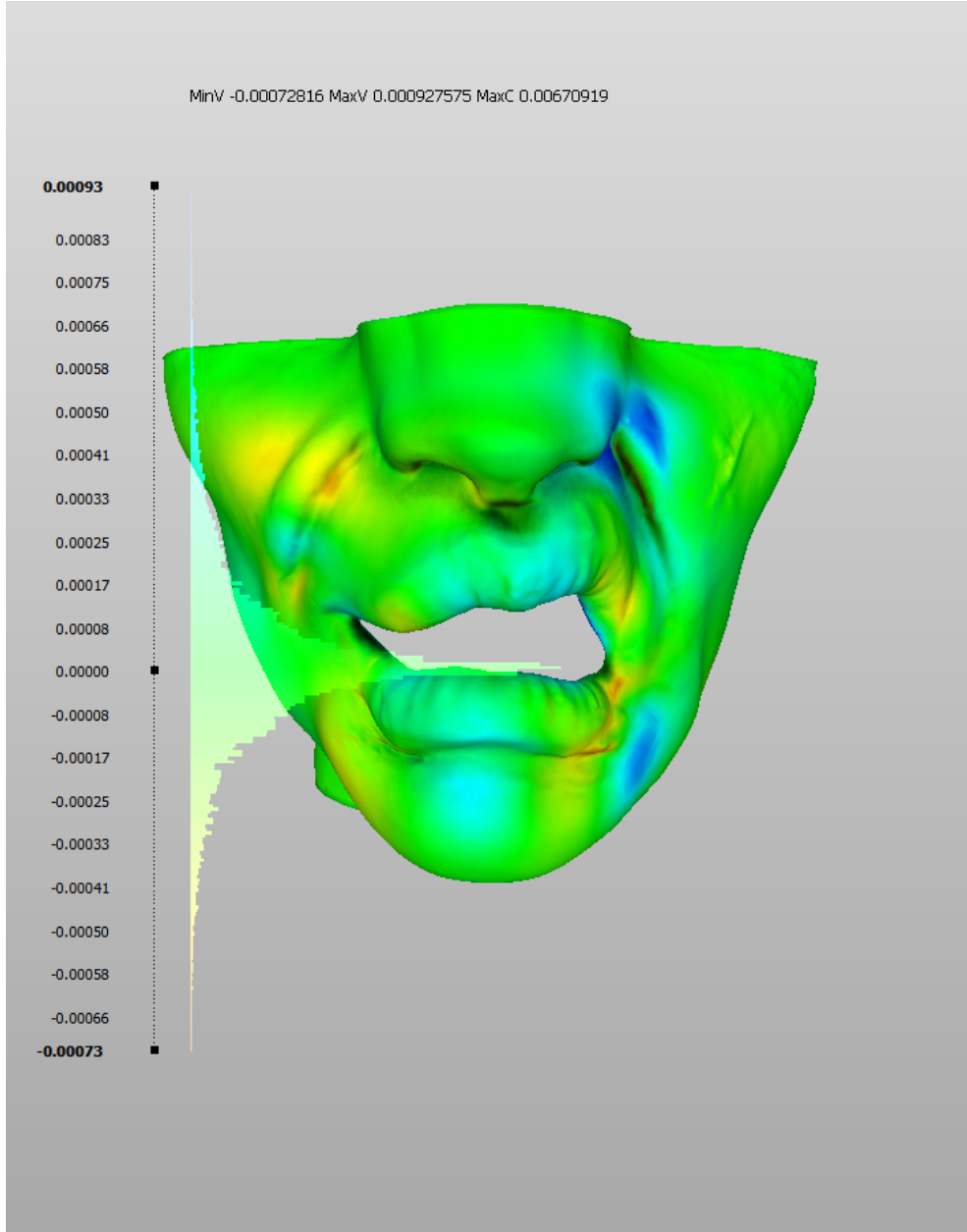
MinV -0.00072816 MaxV 0.000927575 MaxC 0.00670919

Figure 1. Pose 001: Hyper-realistic Audio-Animatronic® - Error Visualization

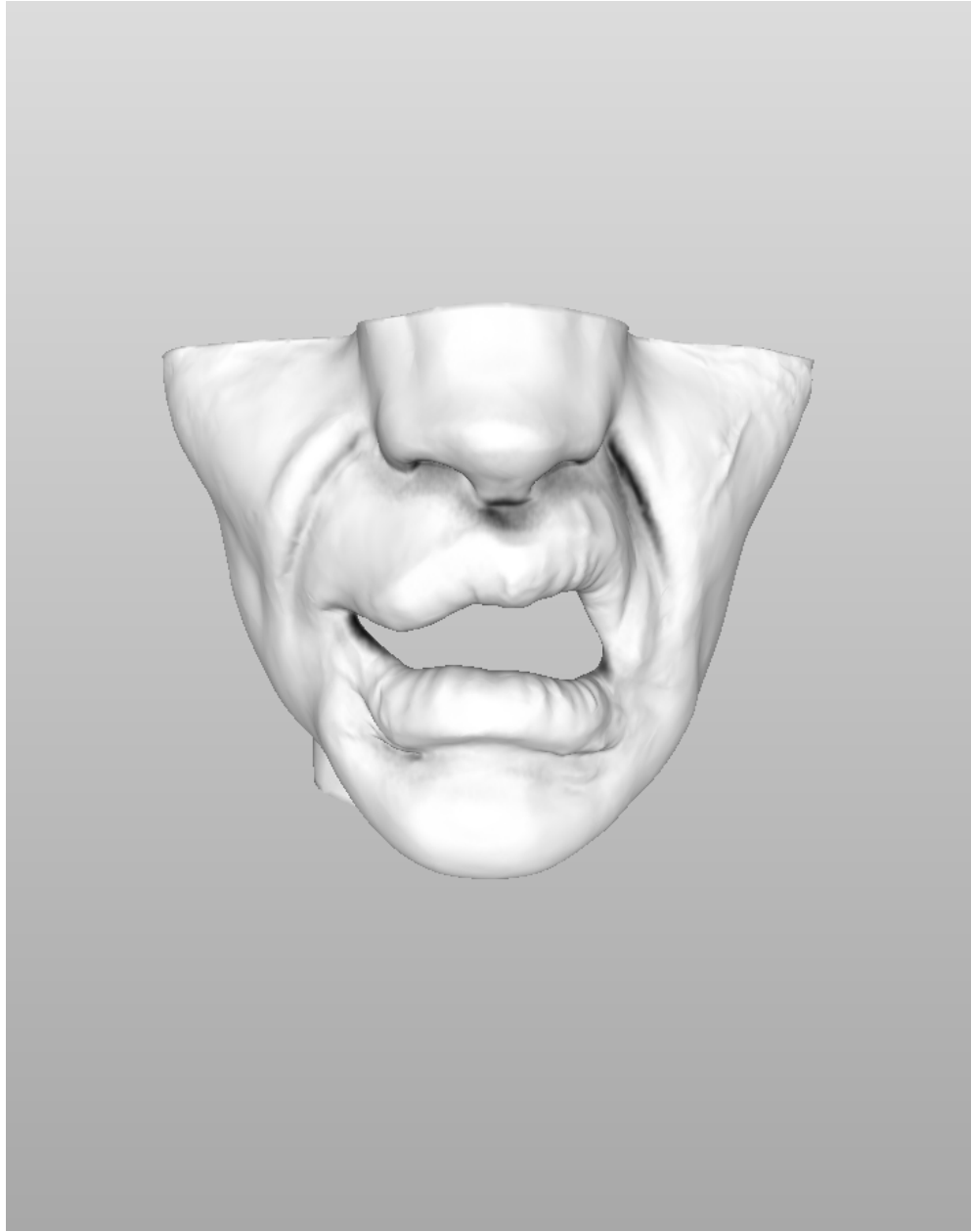Max Vertex Error — Average Vertex Error in meters 0.00112595598937080 — 0.00024671412856948

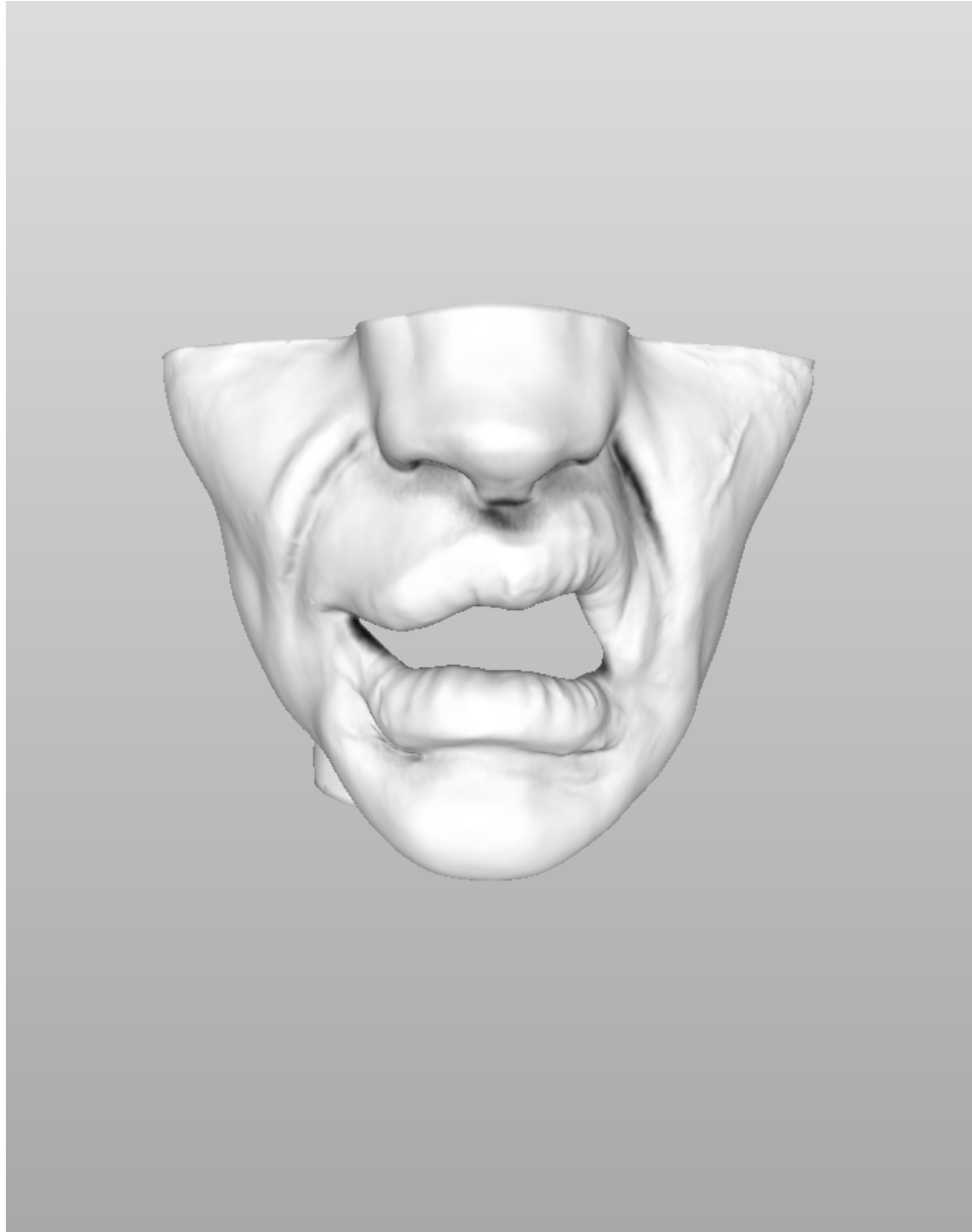**Figure 2**. Pose 001: Hyper-realistic Audio-Animatronic® - Reference Simulation

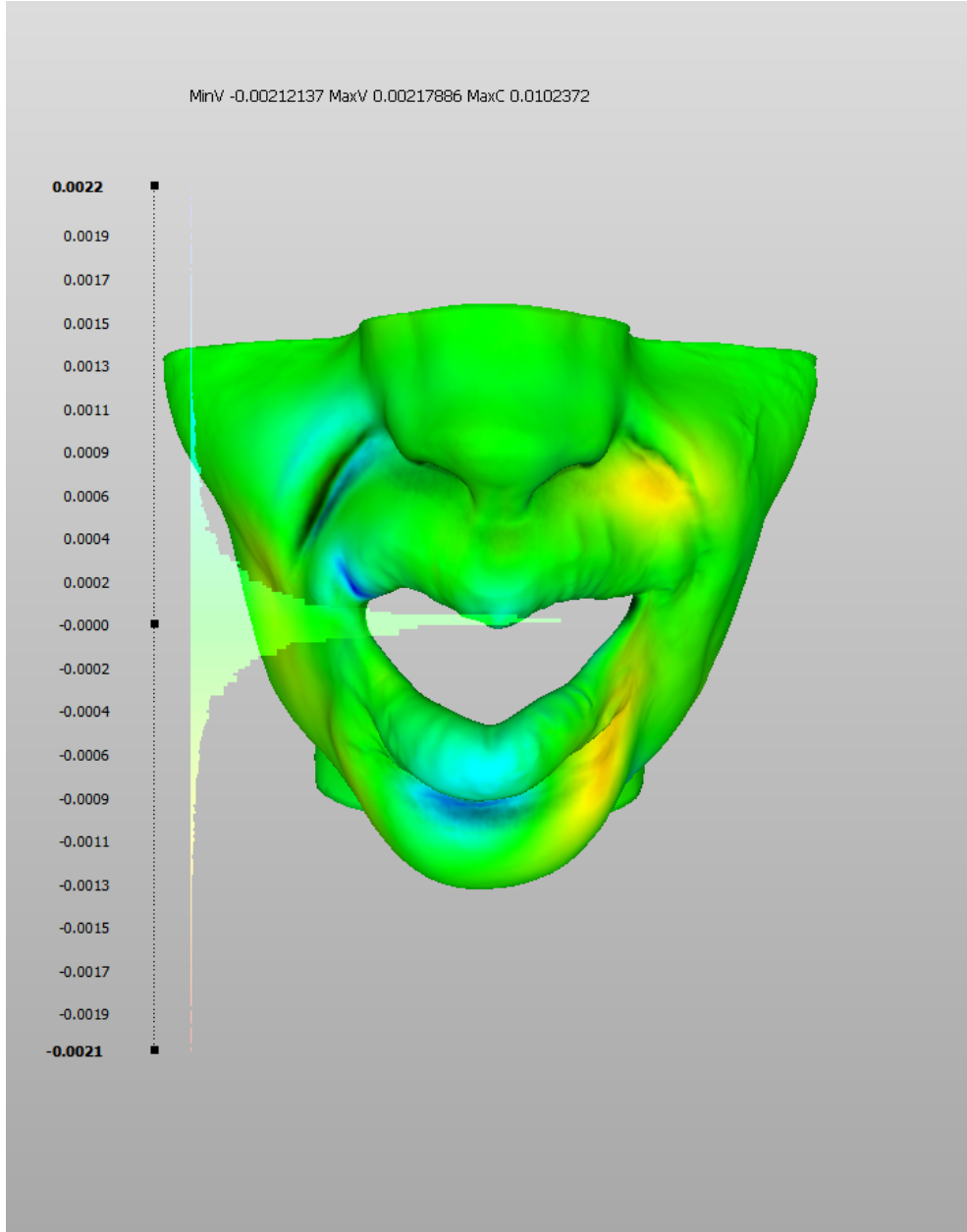**Figure 3**. Pose 001: Hyper-realistic Audio-Animatronic® - Predicted

Figure 4. Pose 002: Hyper-realistic Audio-Animatronic® - Error Visualization

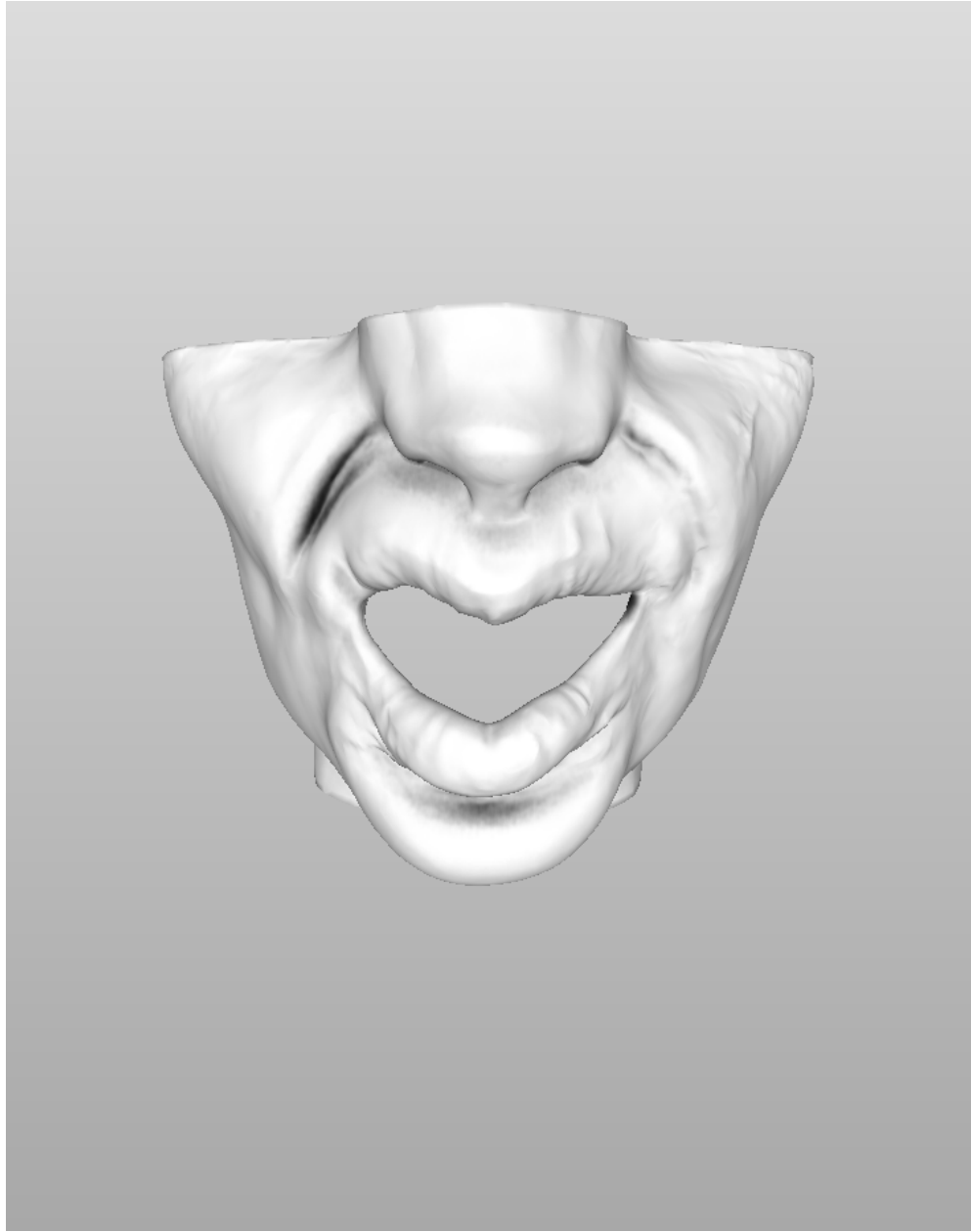Max Vertex Error — Average Vertex Error in meters 0.00322773134397829 — 0.00039196088318369

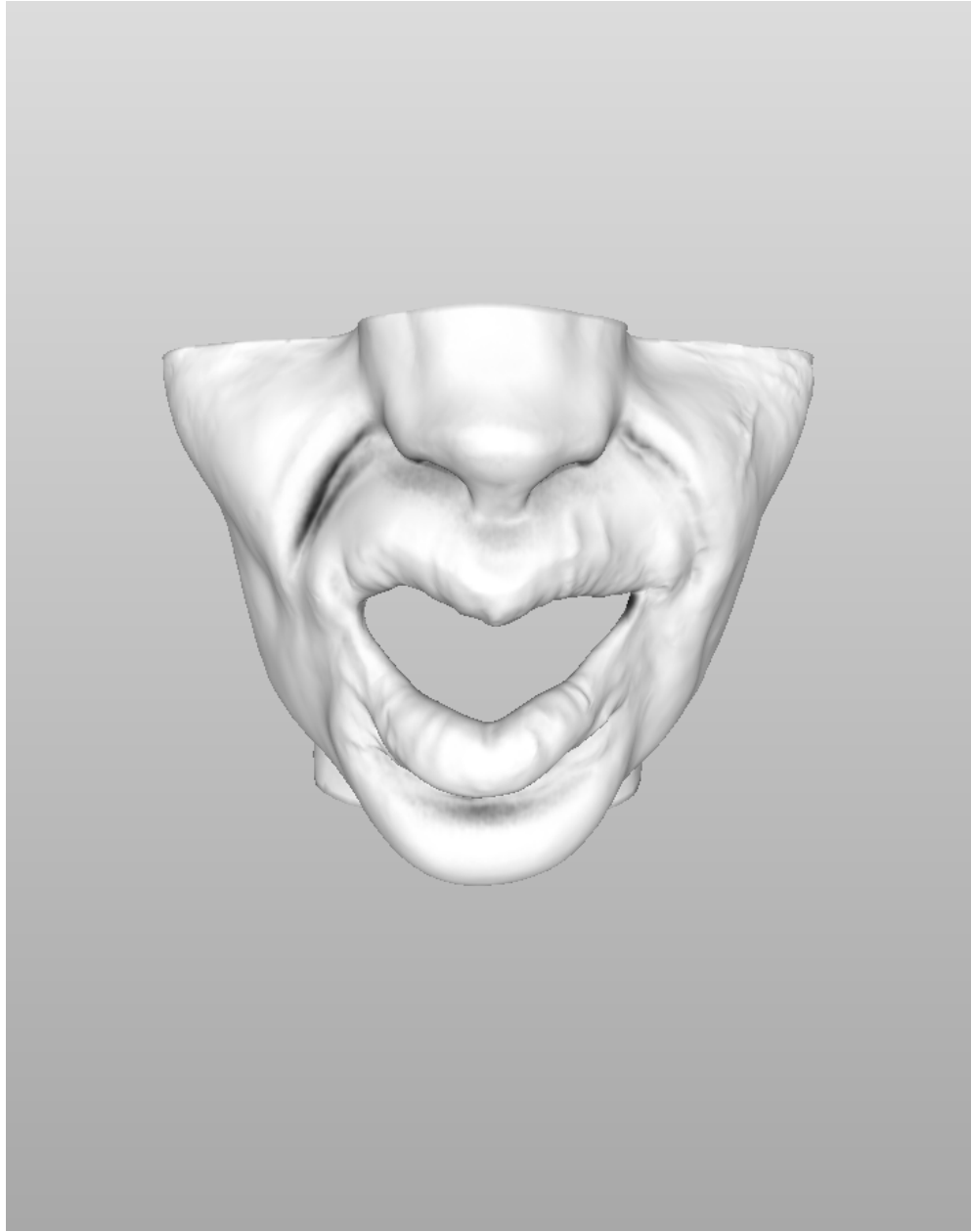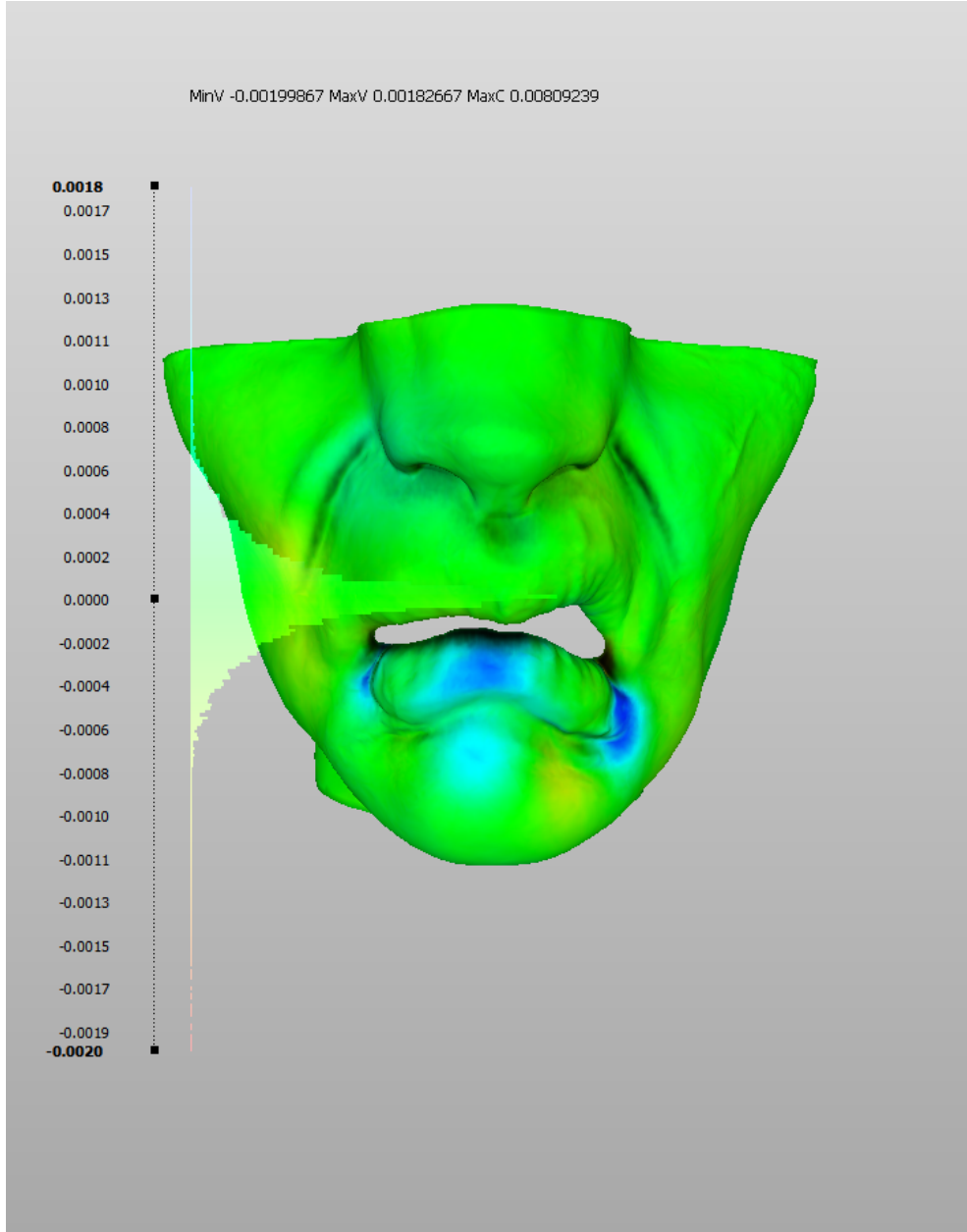**Figure 5**. Pose 002: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 6. Pose 002: Hyper-realistic Audio-Animatronic® - Predicted

MinV -0.00199867 MaxV 0.00182667 MaxC 0.00809239

Figure 7. Pose 003: Hyper-realistic Audio-Animatronic® - Error Visualization

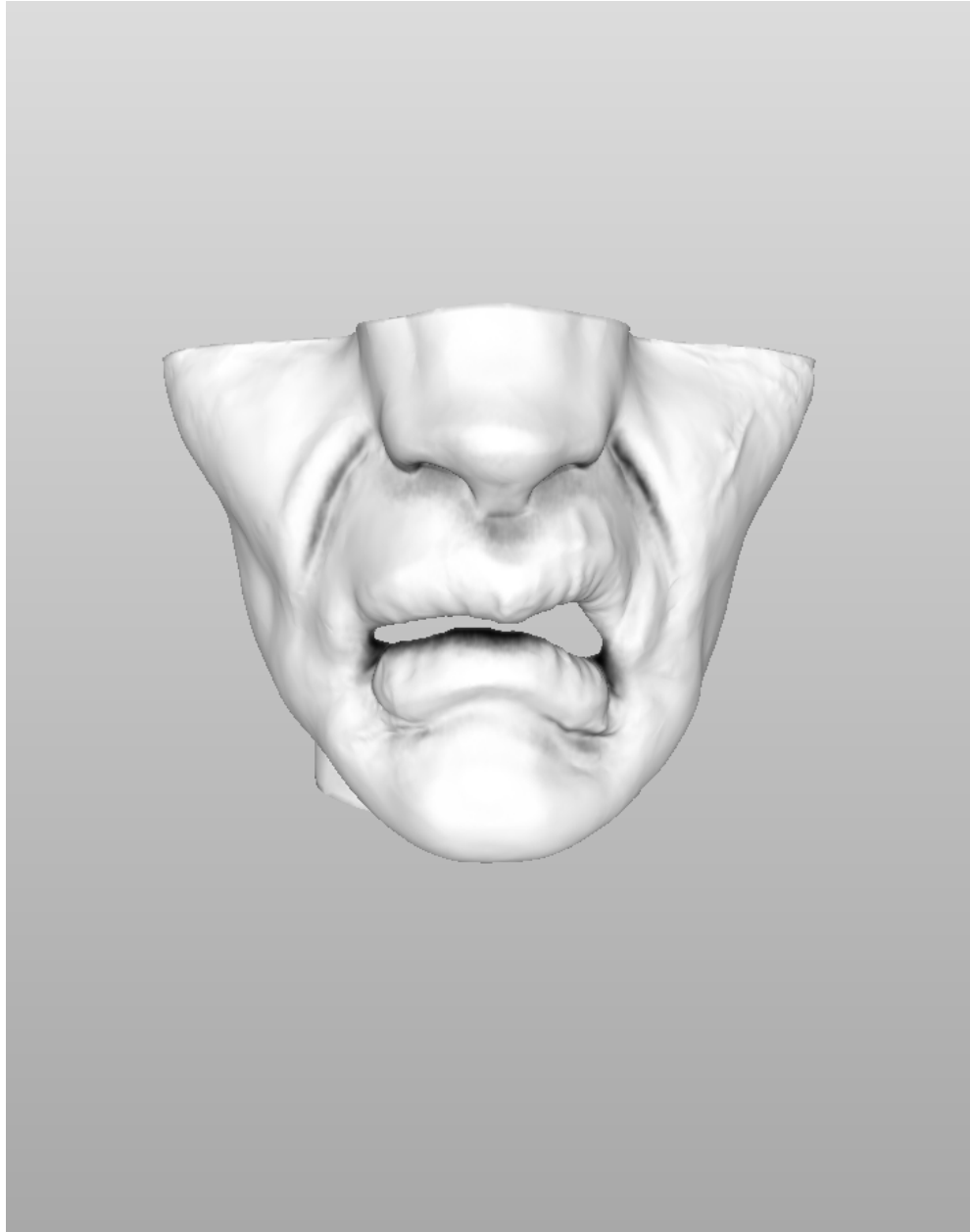Max Vertex Error — Average Vertex Error in meters 0.00431055370573201 — 0.00035730917067240

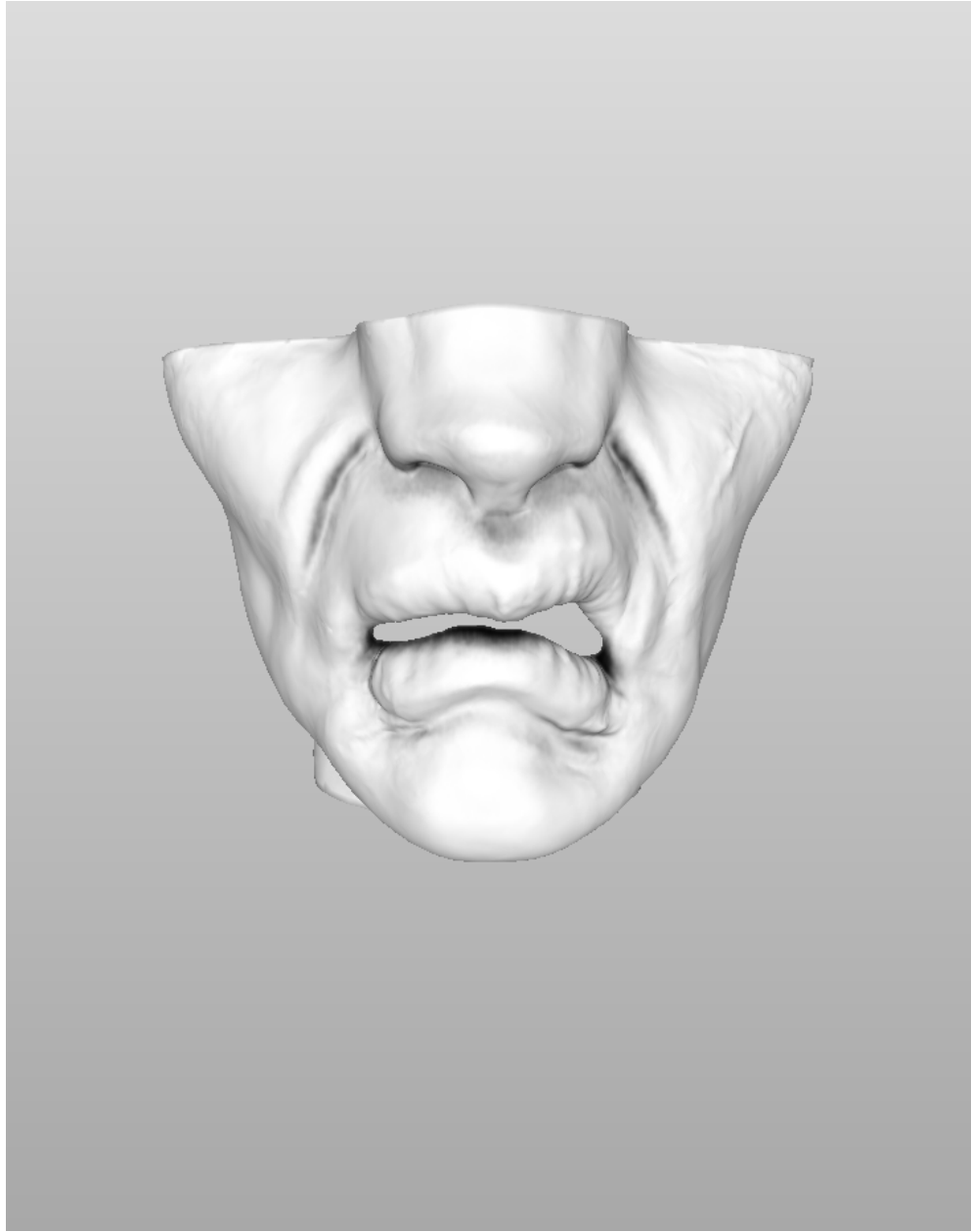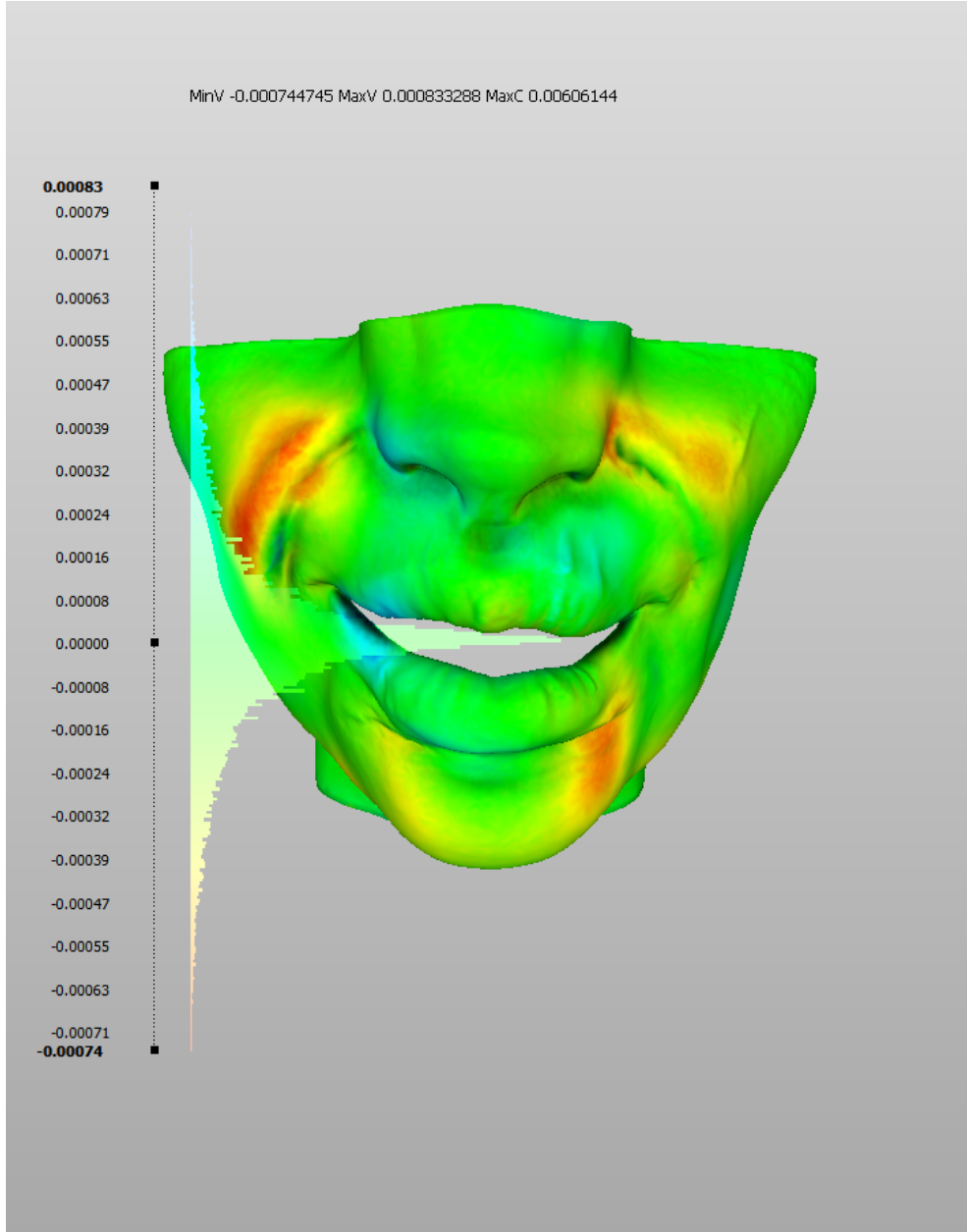**Figure 8**. Pose 003: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 9. Pose 003: Hyper-realistic Audio-Animatronic® - Predicted

Figure 10. Pose 004: Hyper-realistic Audio-Animatronic® - Error Visualization

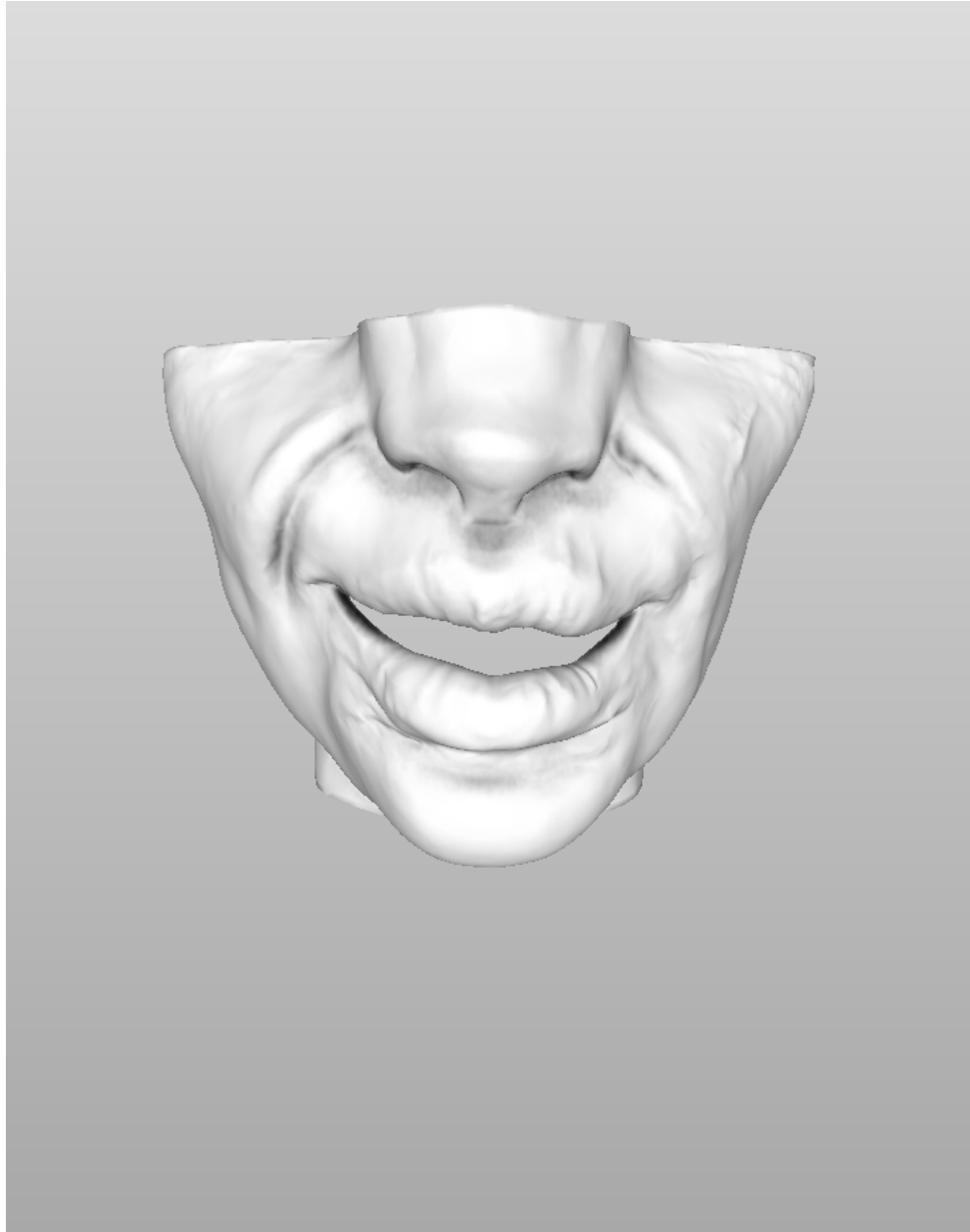Max Vertex Error — Average Vertex Error in meters 0.00095089377429869 — 0.00024605850289281

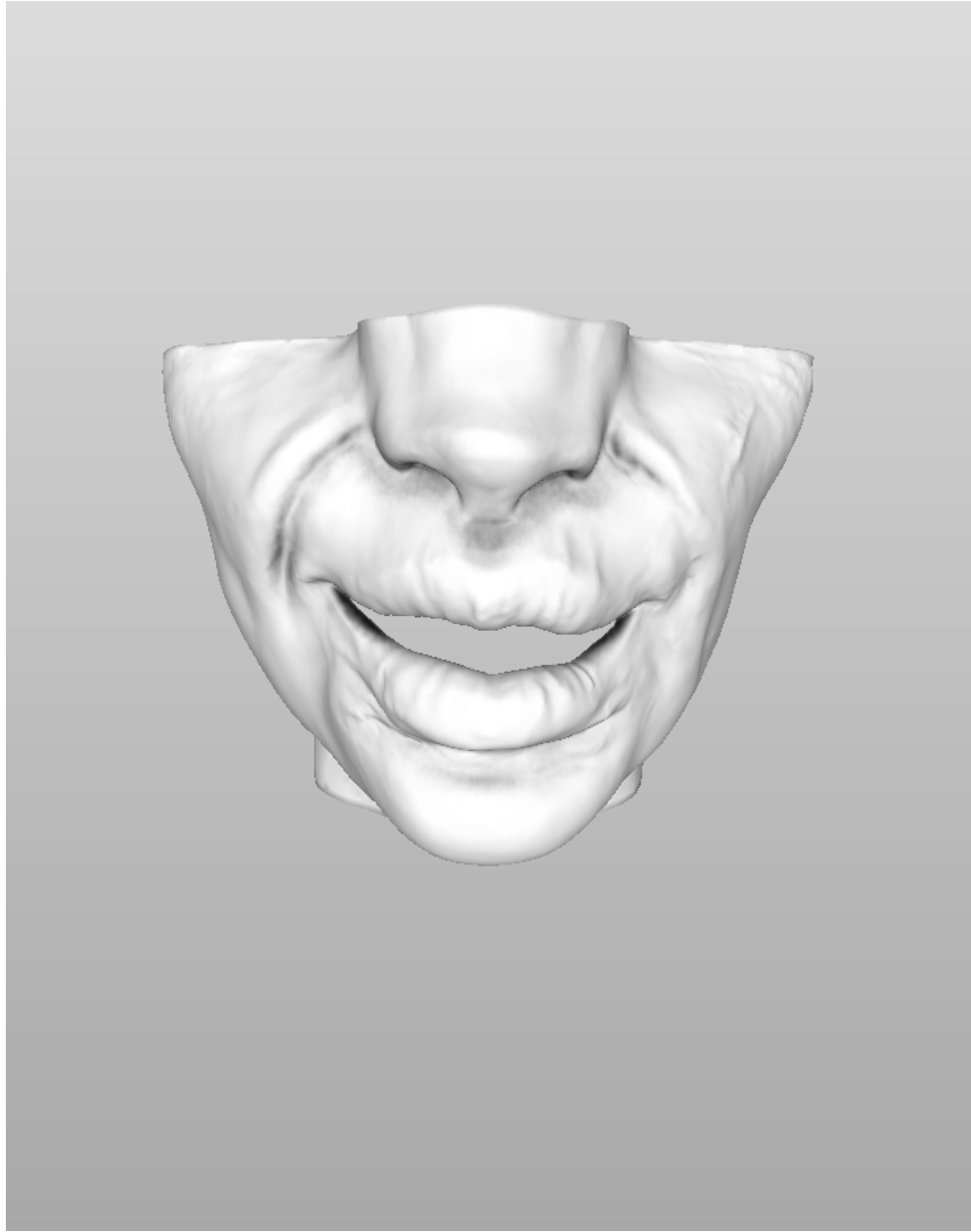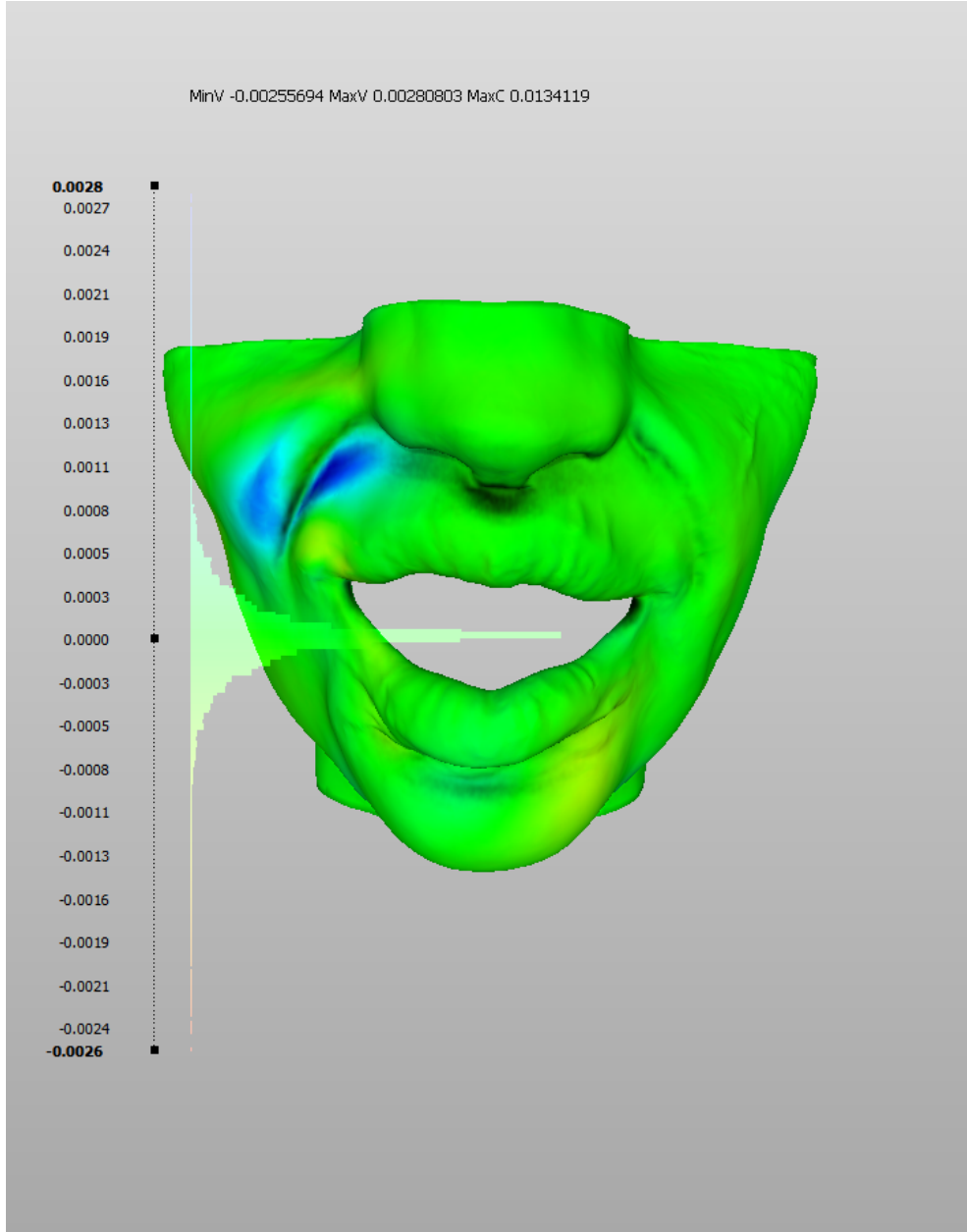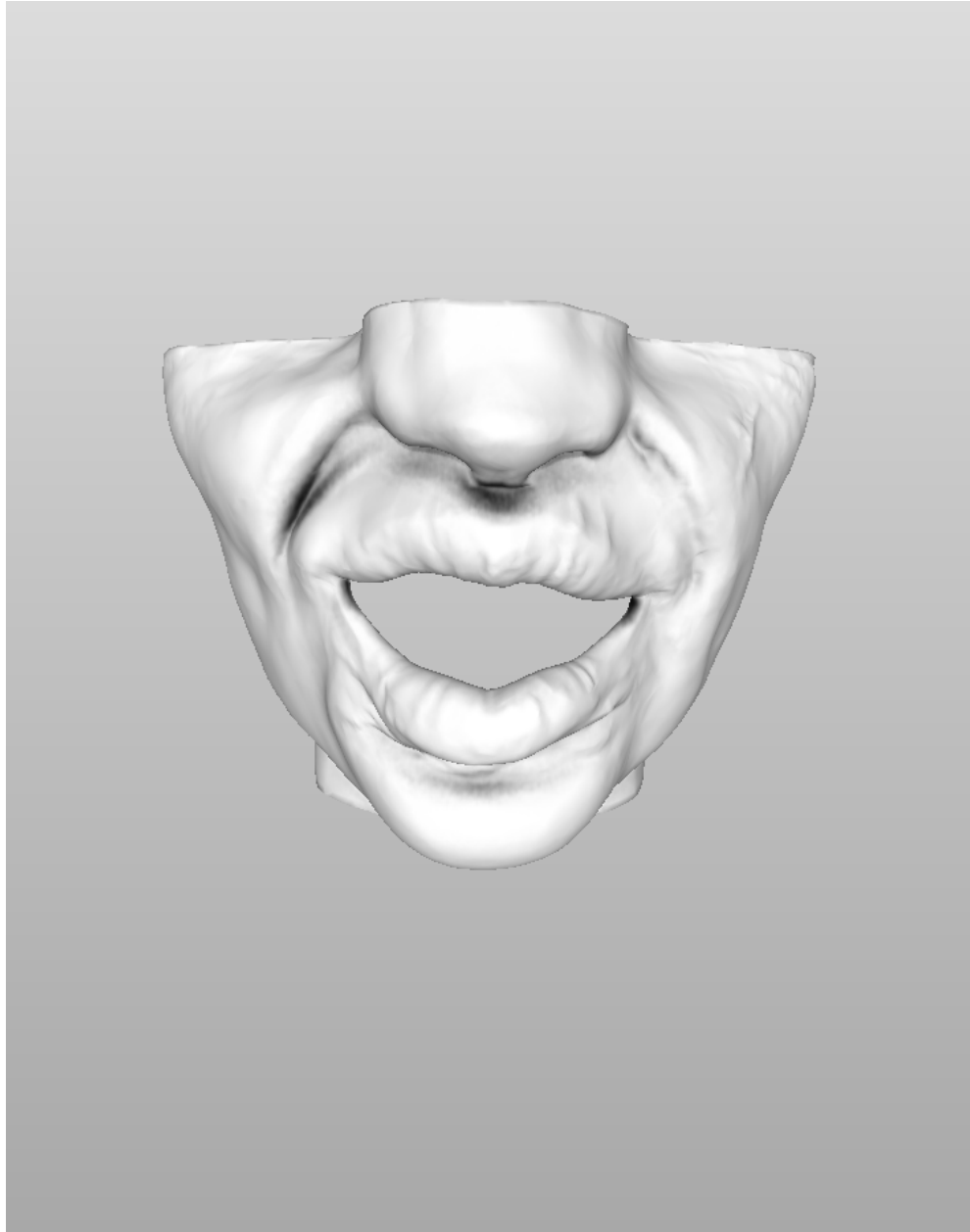**Figure 11**. Pose 004: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 12. Pose 004: Hyper-realistic Audio-Animatronic® - Predicted

Figure 13. Pose 005: Hyper-realistic Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.00343852718471150 — 0.00031909312088362

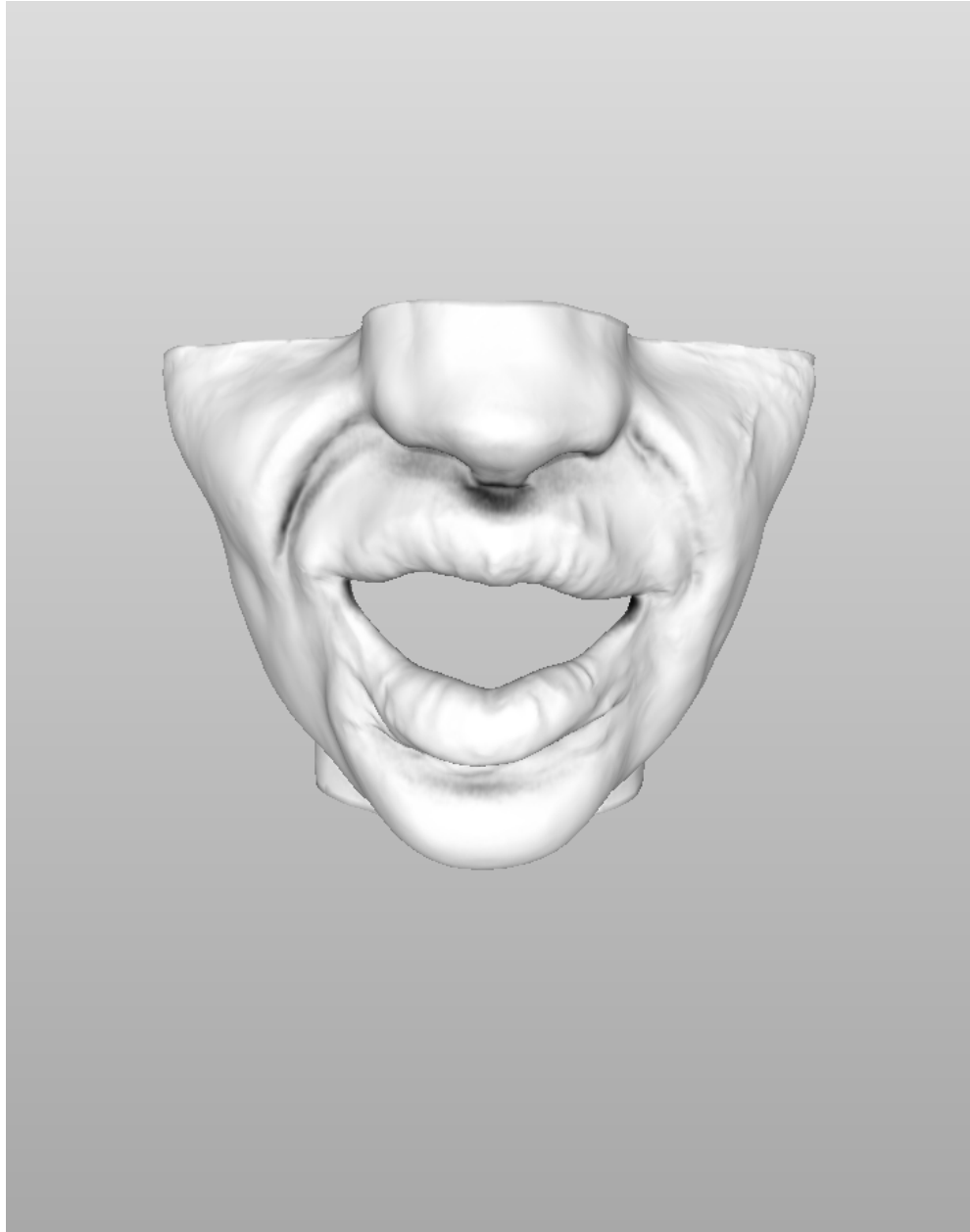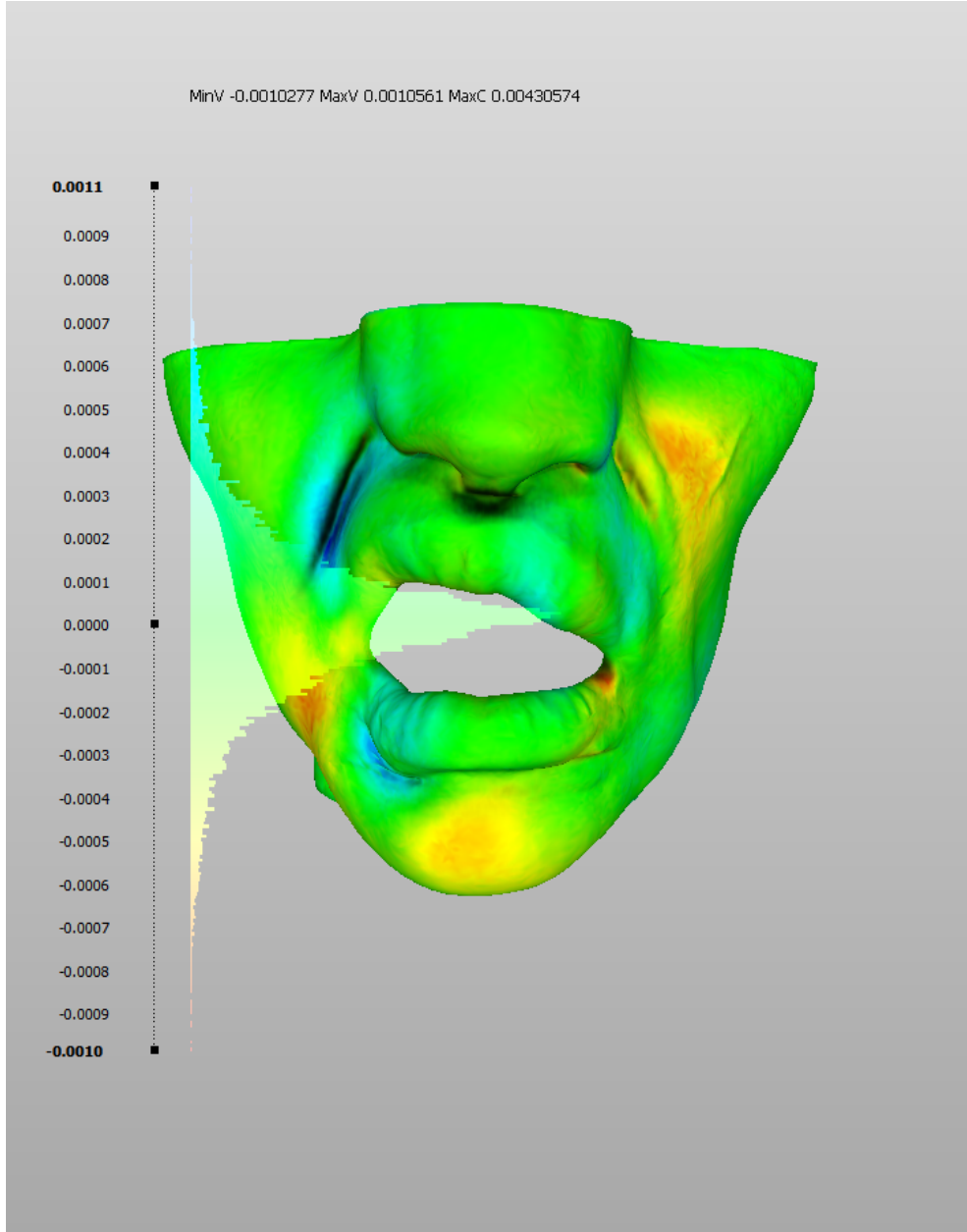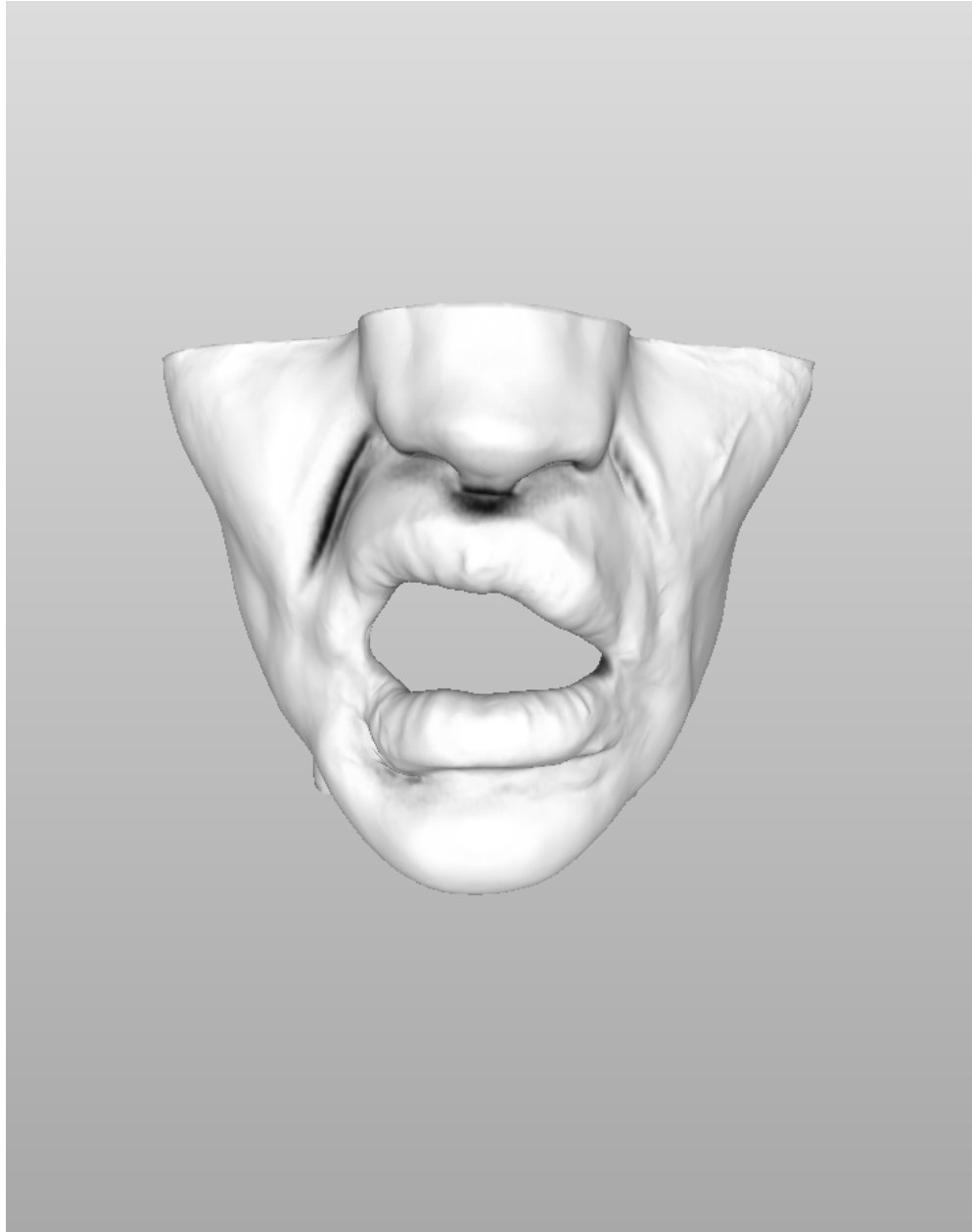**Figure 14**. Pose 005: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 15. Pose 005: Hyper-realistic Audio-Animatronic® - Predicted

Figure 16. Pose 006: Hyper-realistic Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.00132625190669042 — 0.00033340646137406

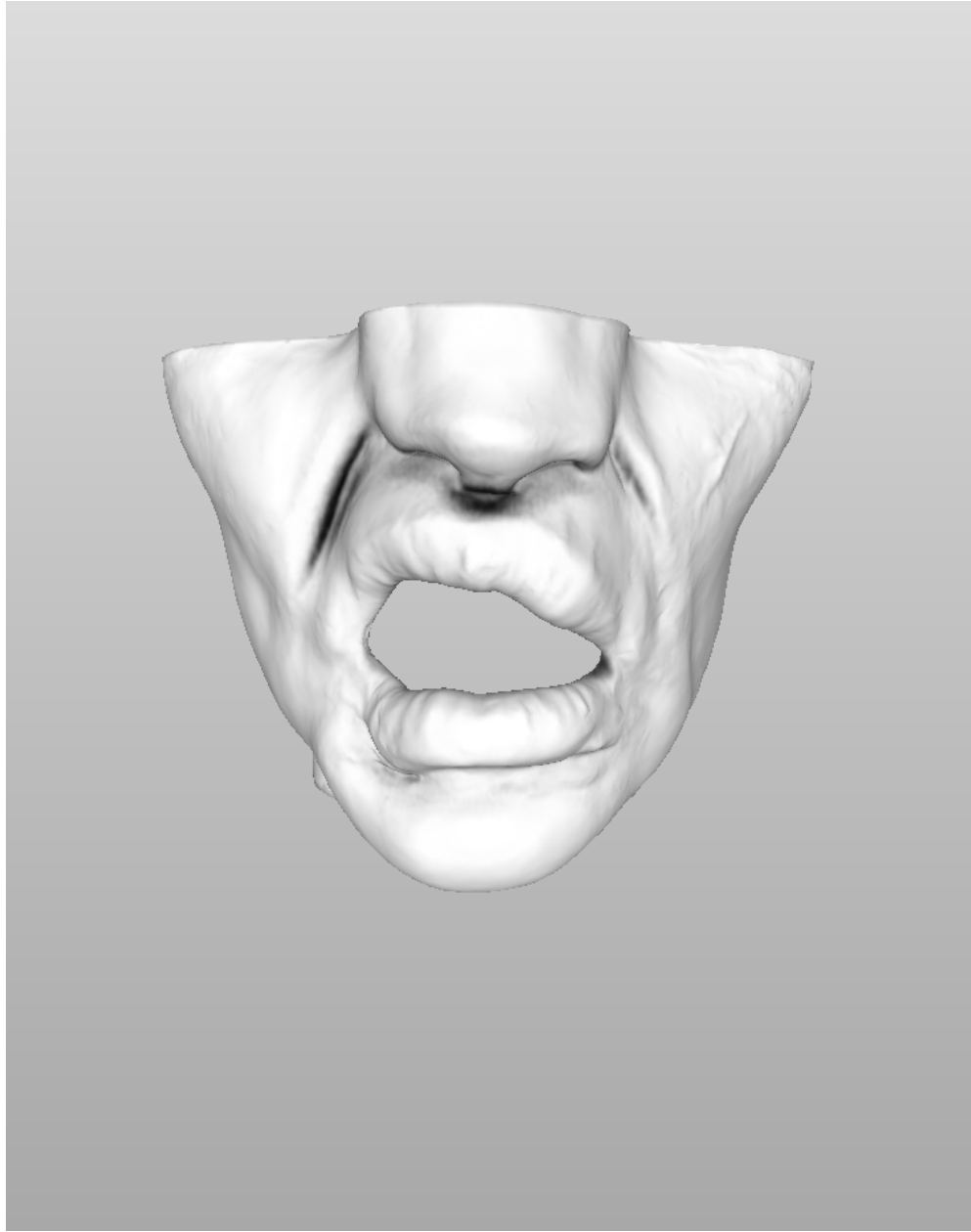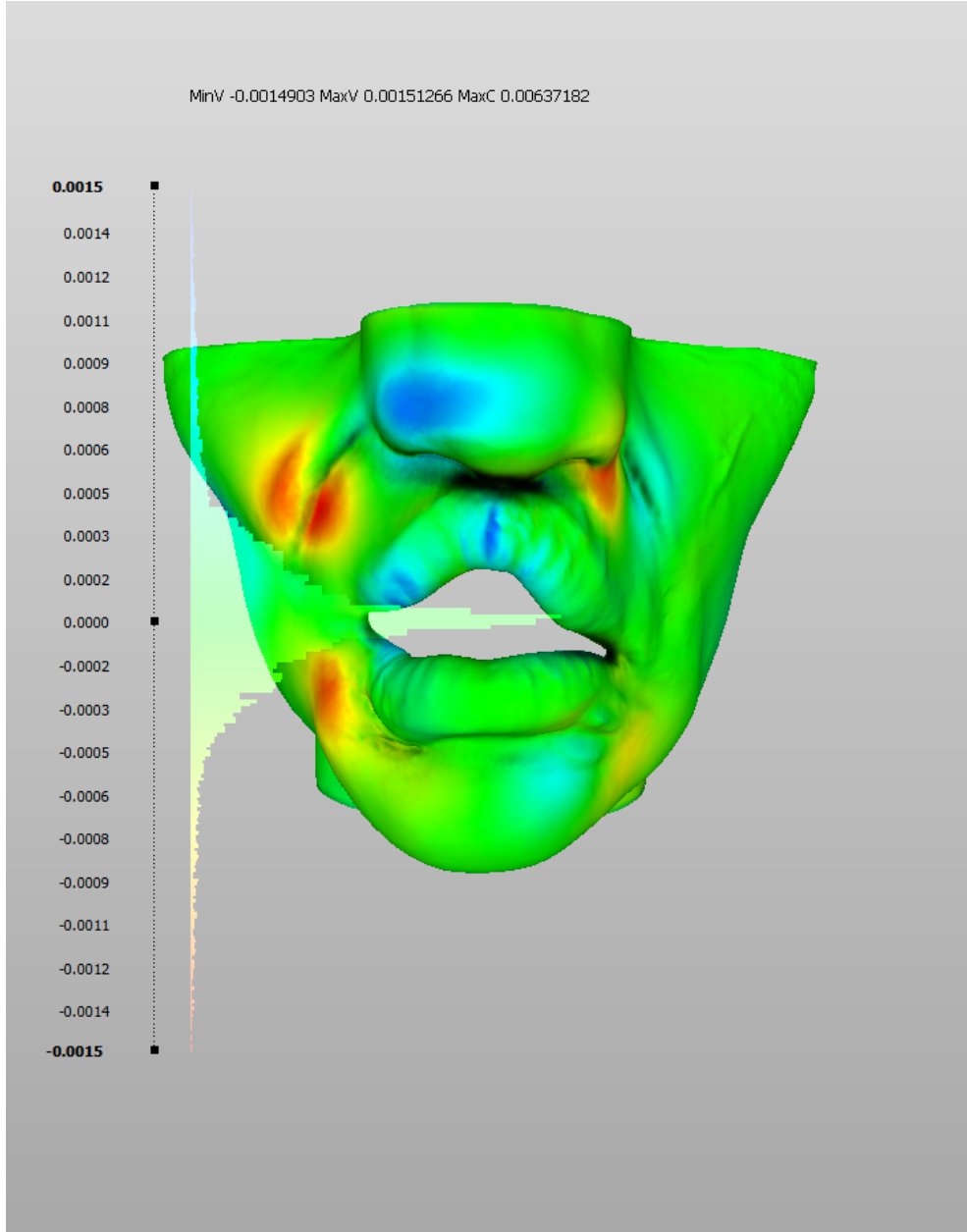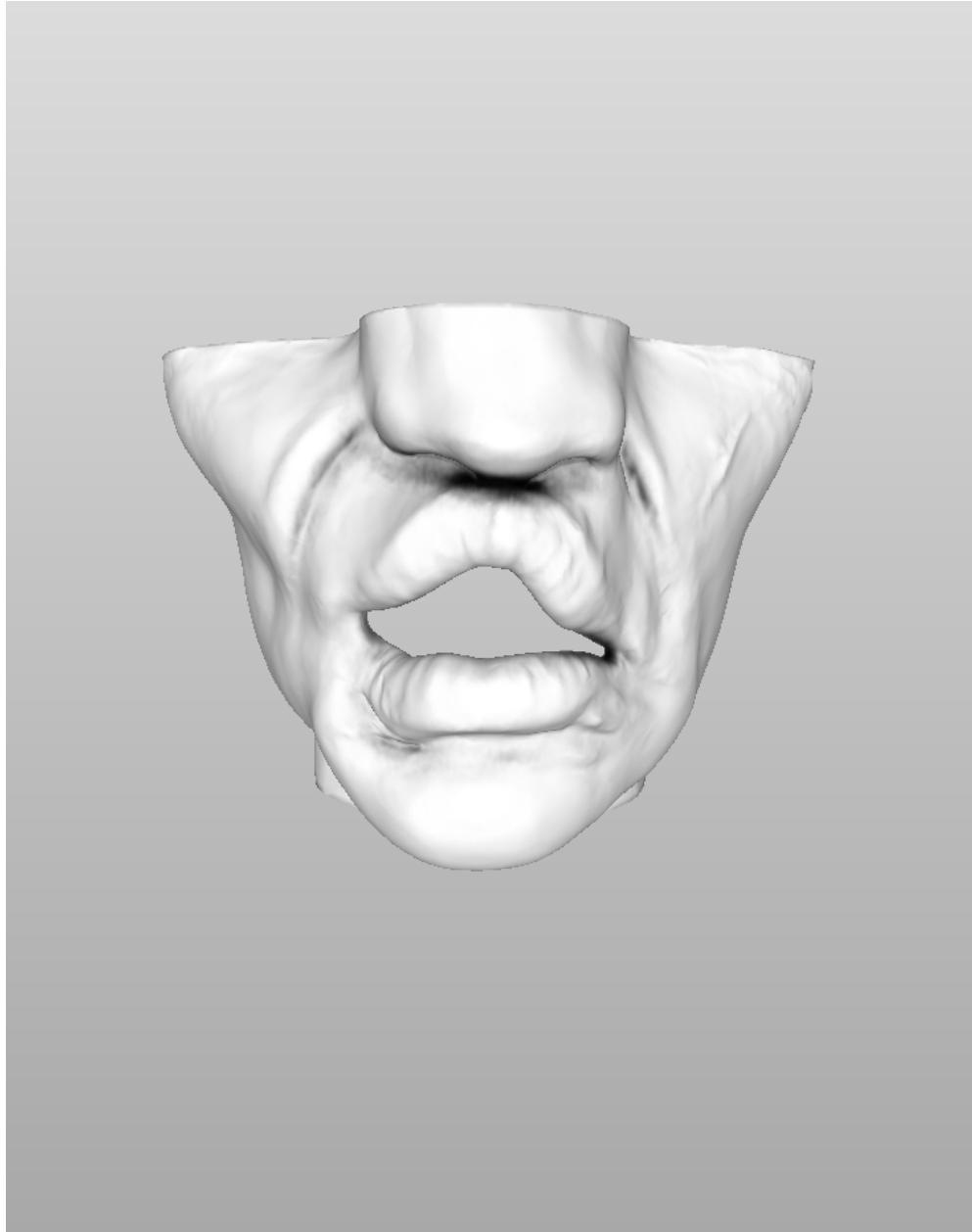**Figure 17**. Pose 006: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 18. Pose 006: Hyper-realistic Audio-Animatronic® - Predicted

Figure 19. Pose 007: Hyper-realistic Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.00202678132515571 — 0.0003880386267365

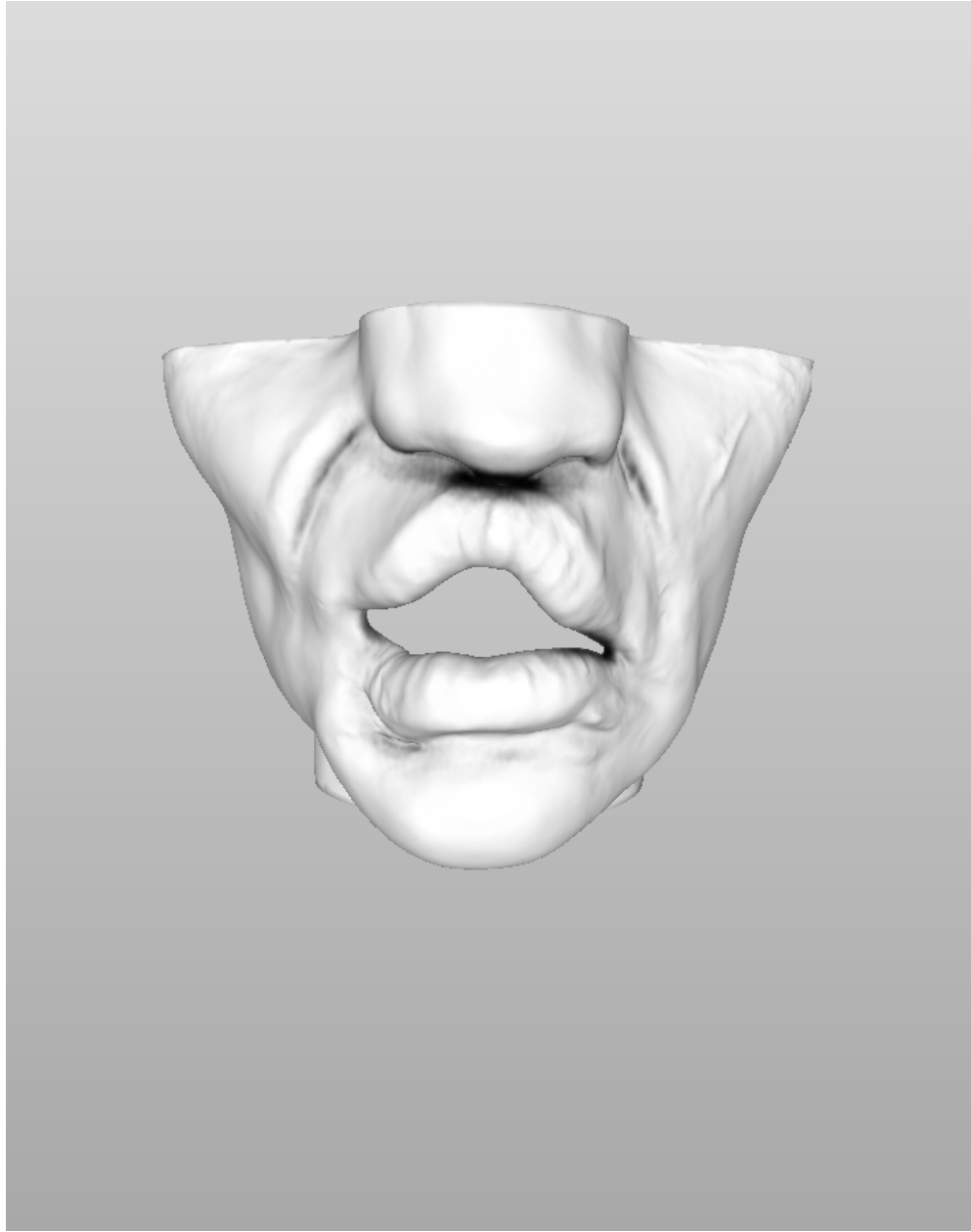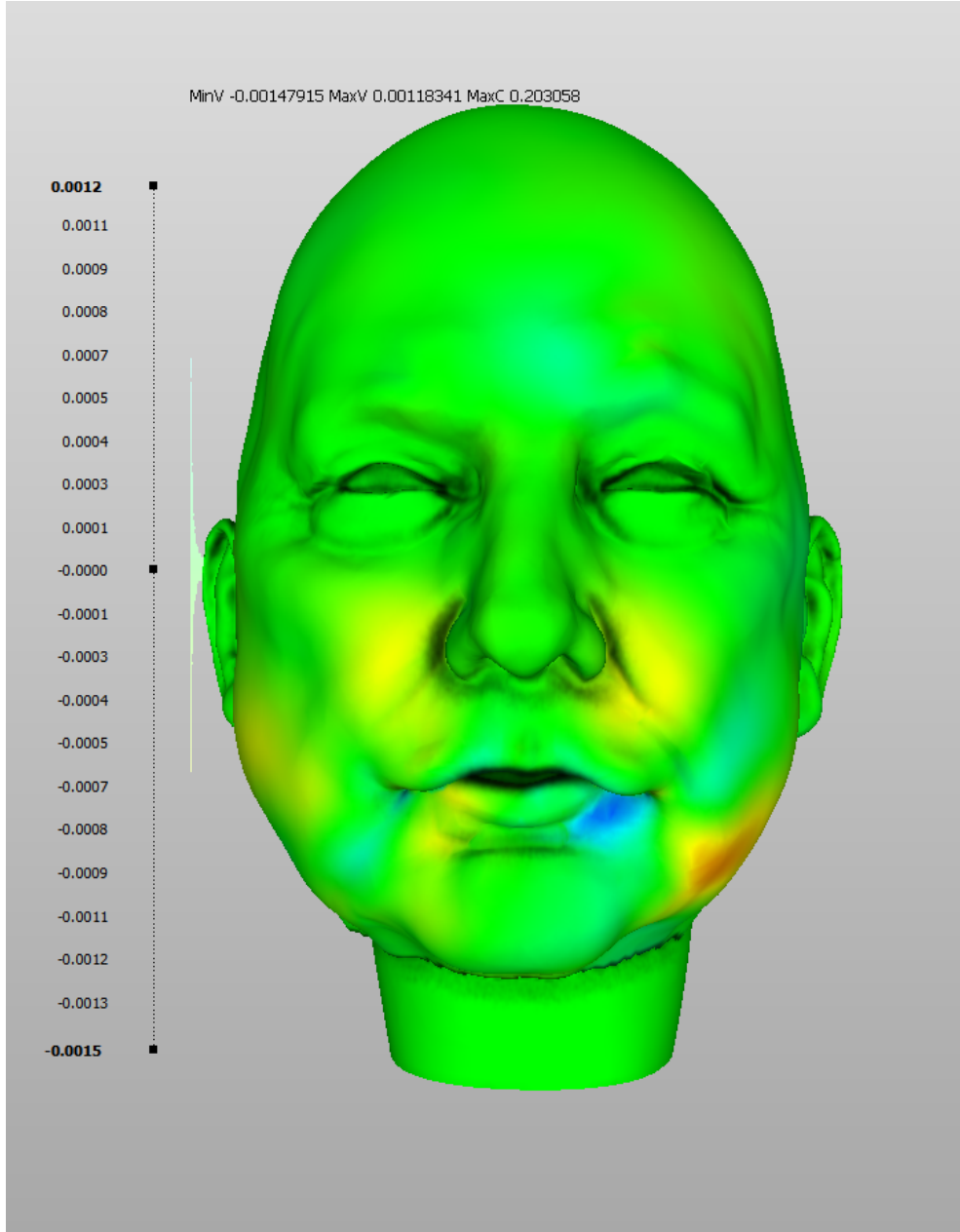**Figure 20**. Pose 007: Hyper-realistic Audio-Animatronic® - Reference Simulation

Figure 21. Pose 007: Hyper-realistic Audio-Animatronic® - Predicted

MinV -0.00147915 MaxV 0.00118341 MaxC 0.203058

Figure 22. Pose 062: Humanoid Audio-Animatronic® - Error Visualization

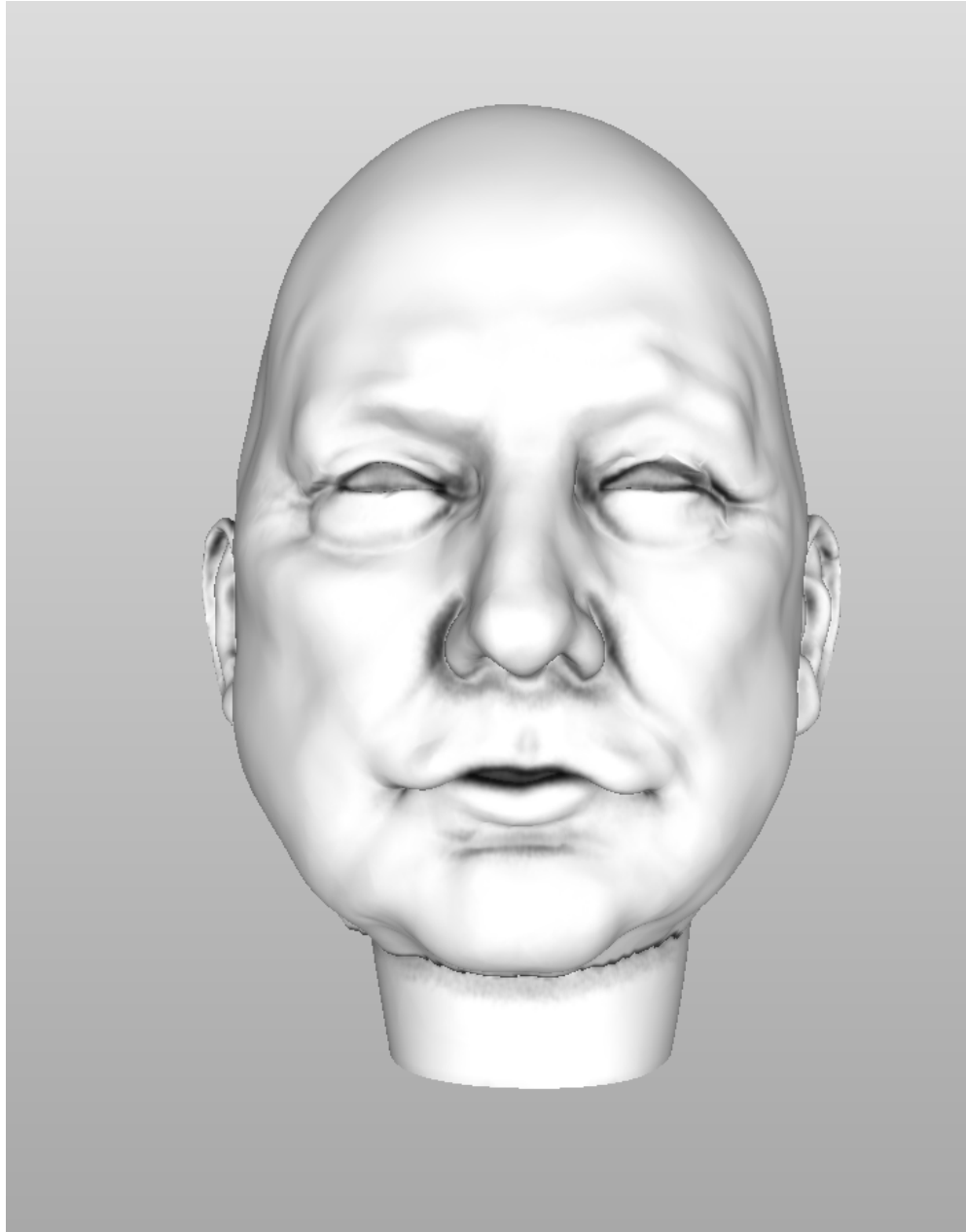**Figure 23**. Pose 062: Humanoid Audio-Animatronic® - Reference Simulation
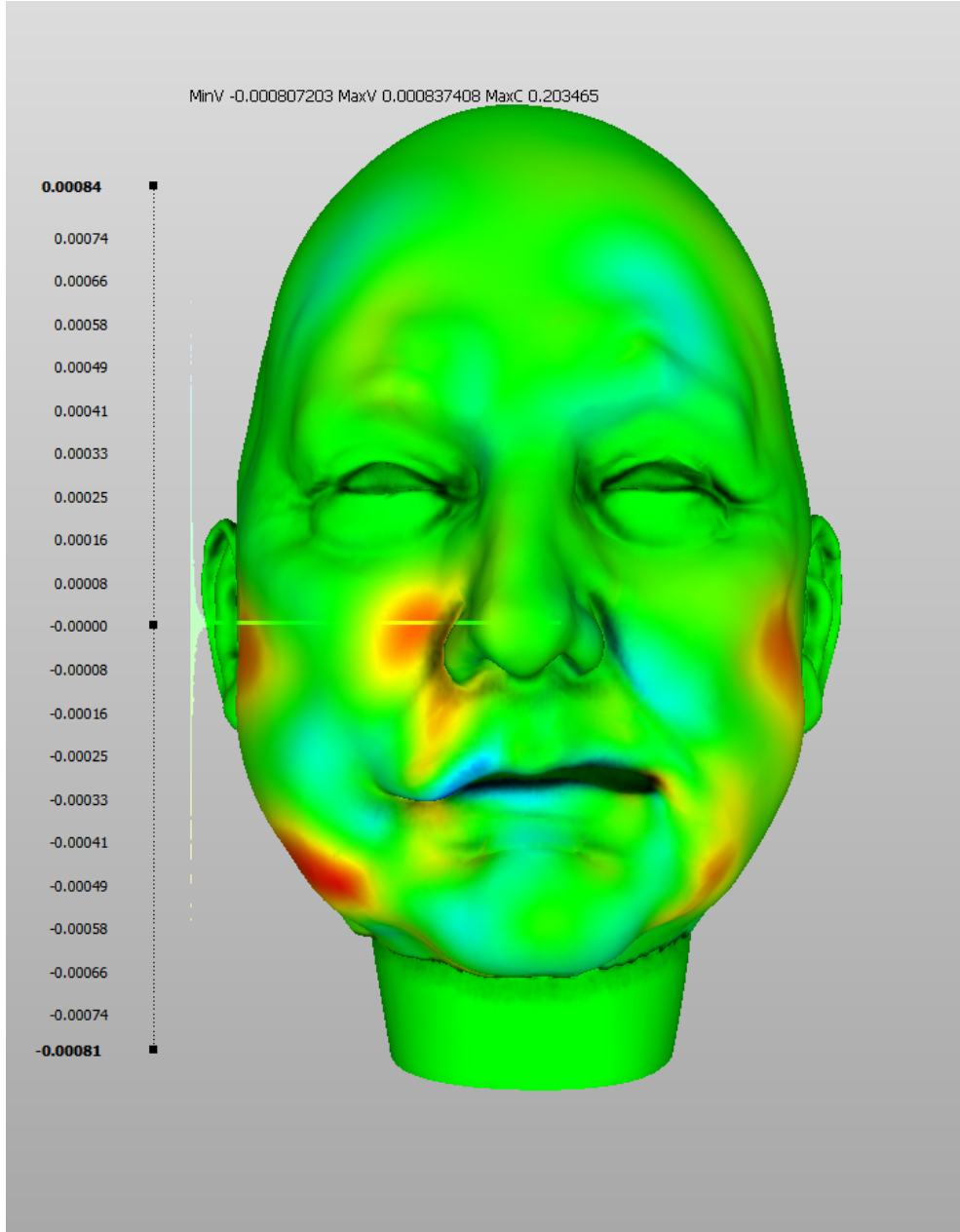
Figure 24. Pose 062: Humanoid Audio-Animatronic® - Predicted

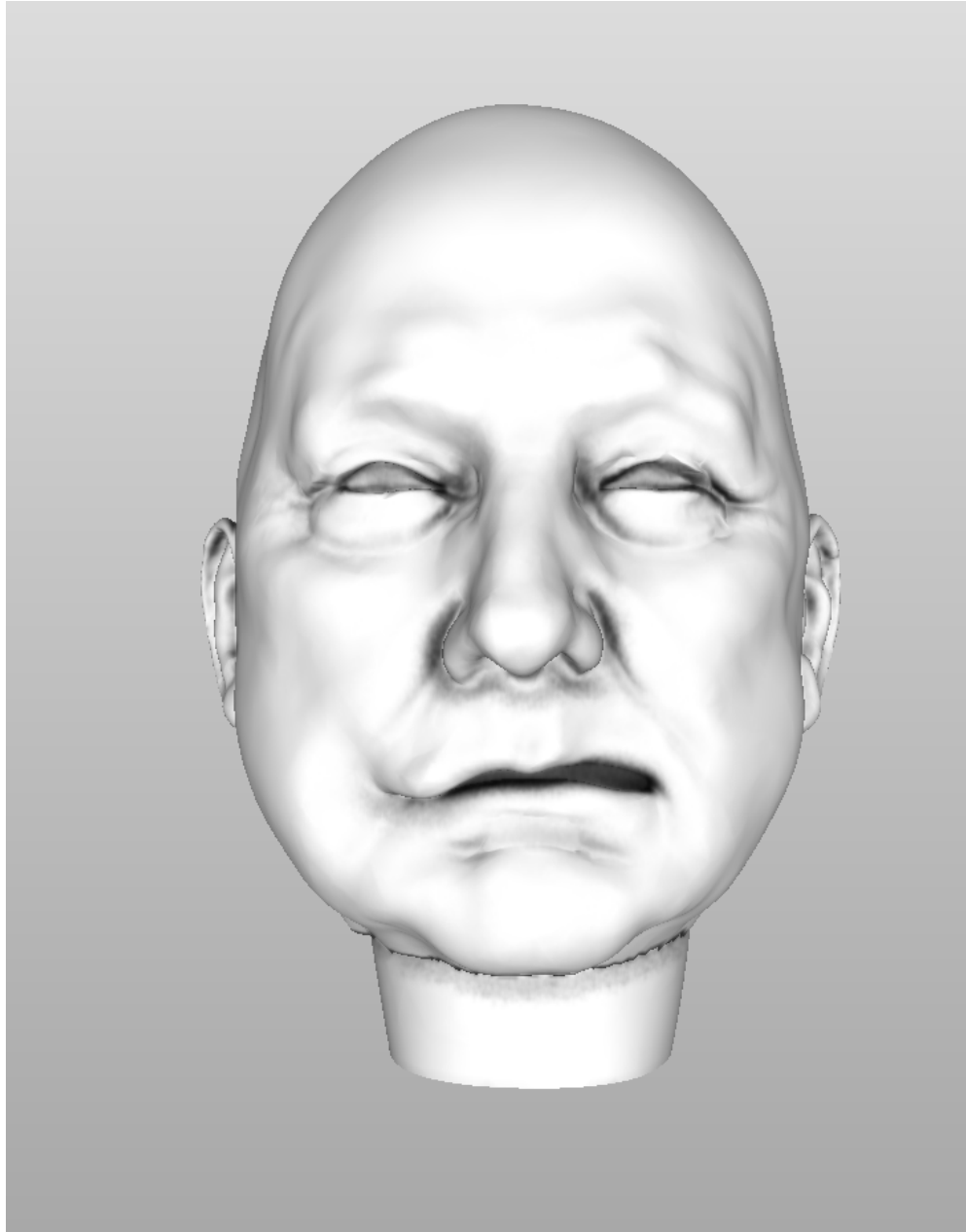**Figure 25**. Pose 08F: Humanoid Audio-Animatronic® - Error Visualization

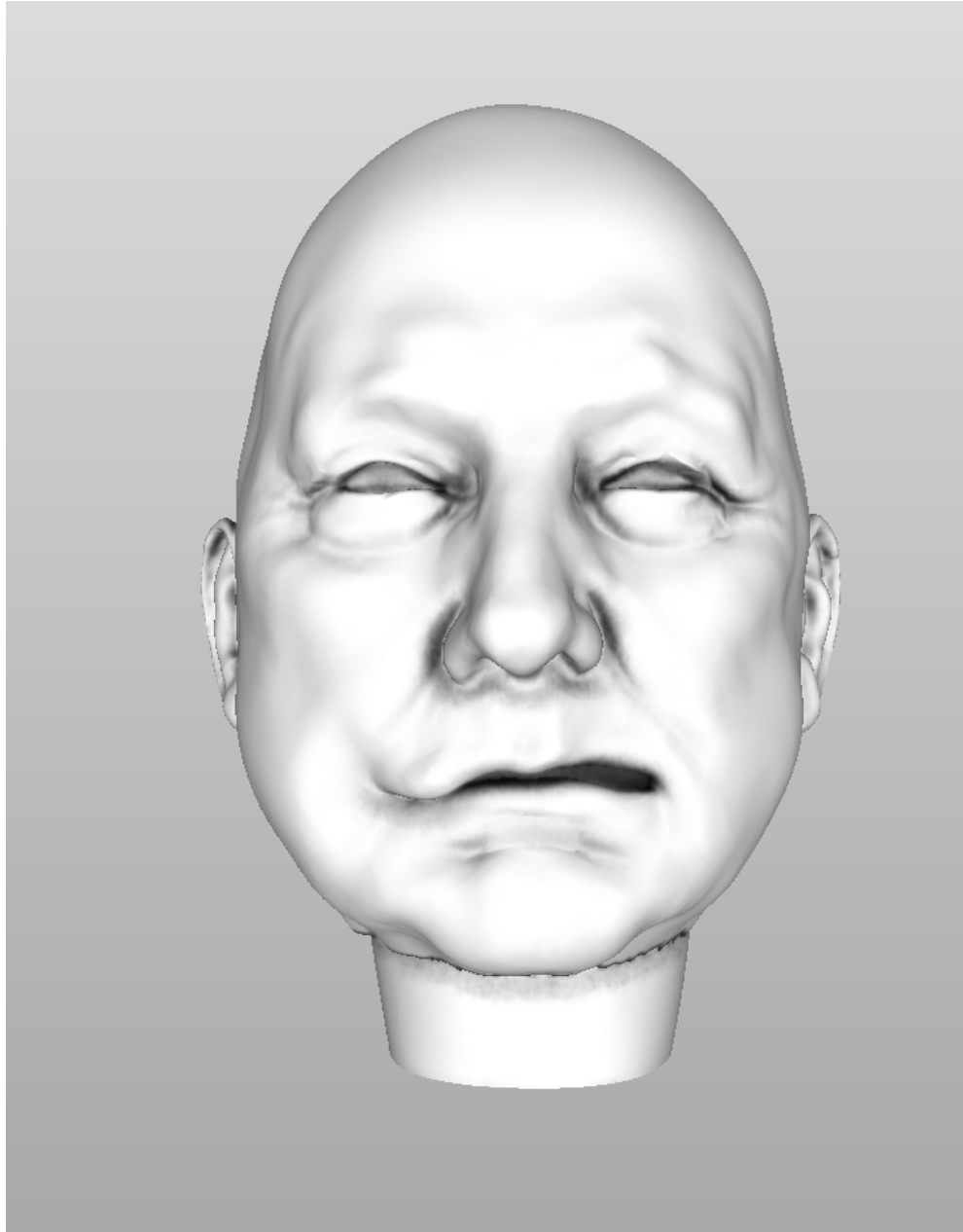**Figure 26**. Pose 08F: Humanoid Audio-Animatronic® - Reference Simulation

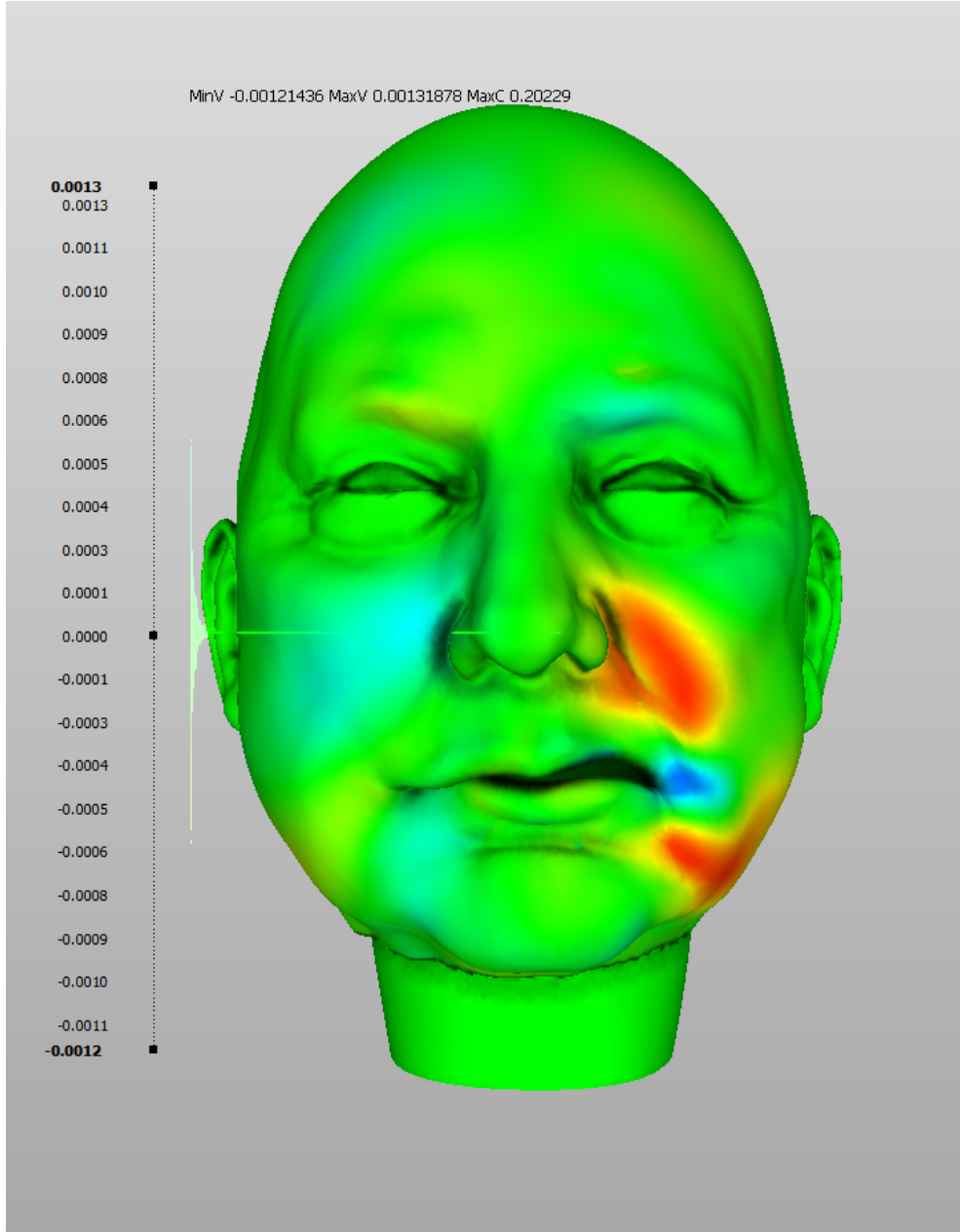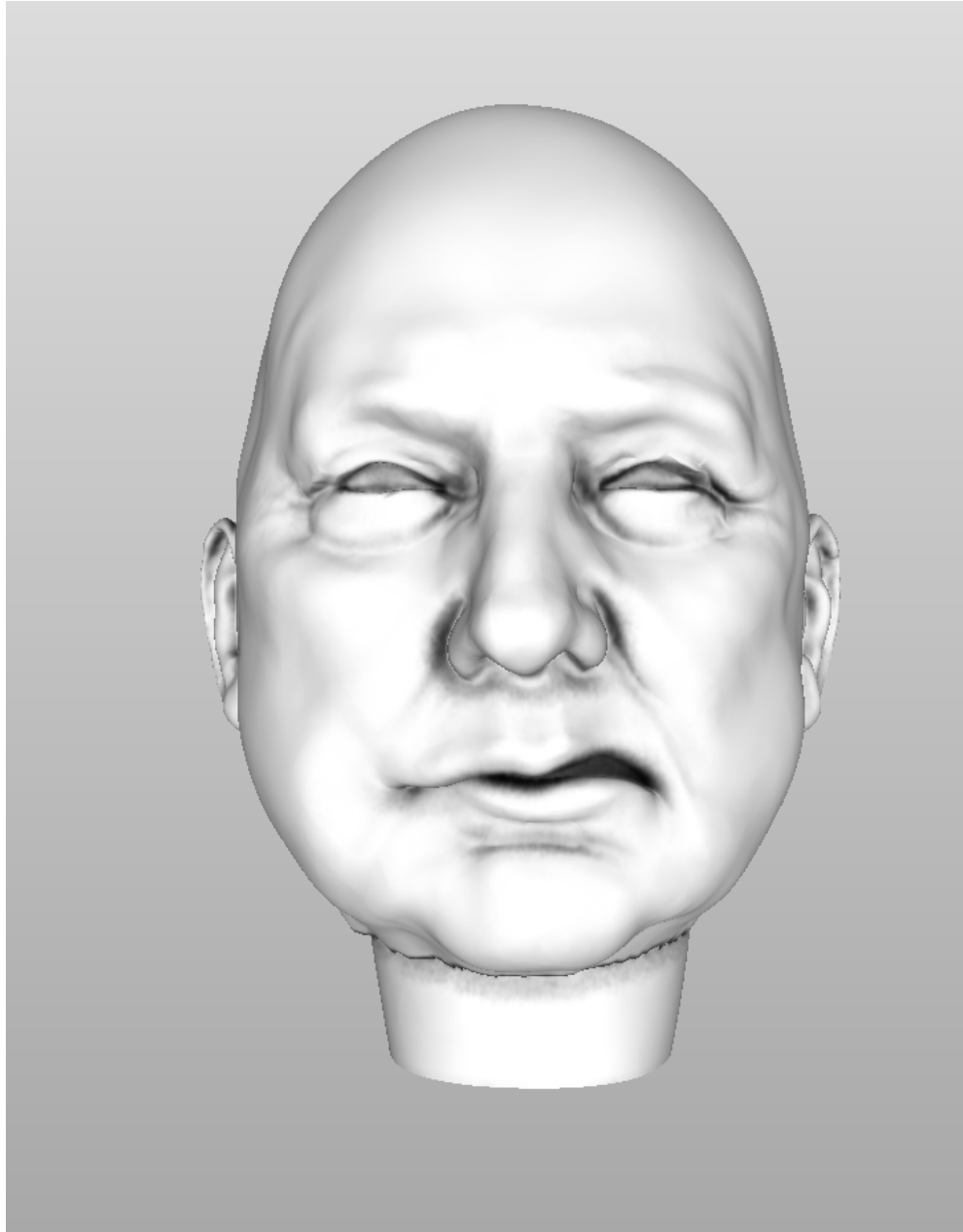**Figure 27**. Pose 08F: Humanoid Audio-Animatronic® - Predicted

Figure 28. Pose 0FF: Humanoid Audio-Animatronic® - Error Visualization

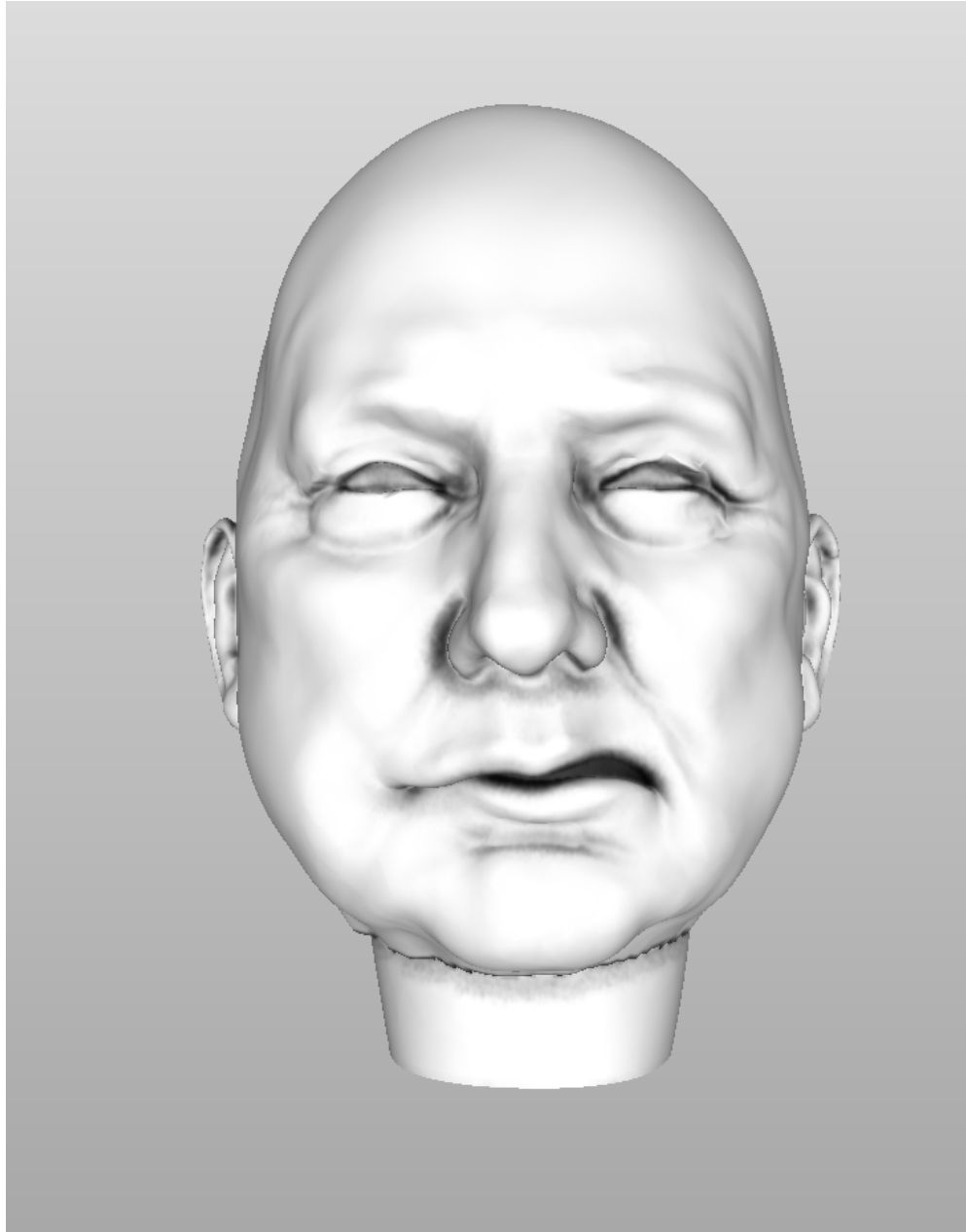**Figure 29**. Pose 0FF: Humanoid Audio-Animatronic® - Reference Simulation

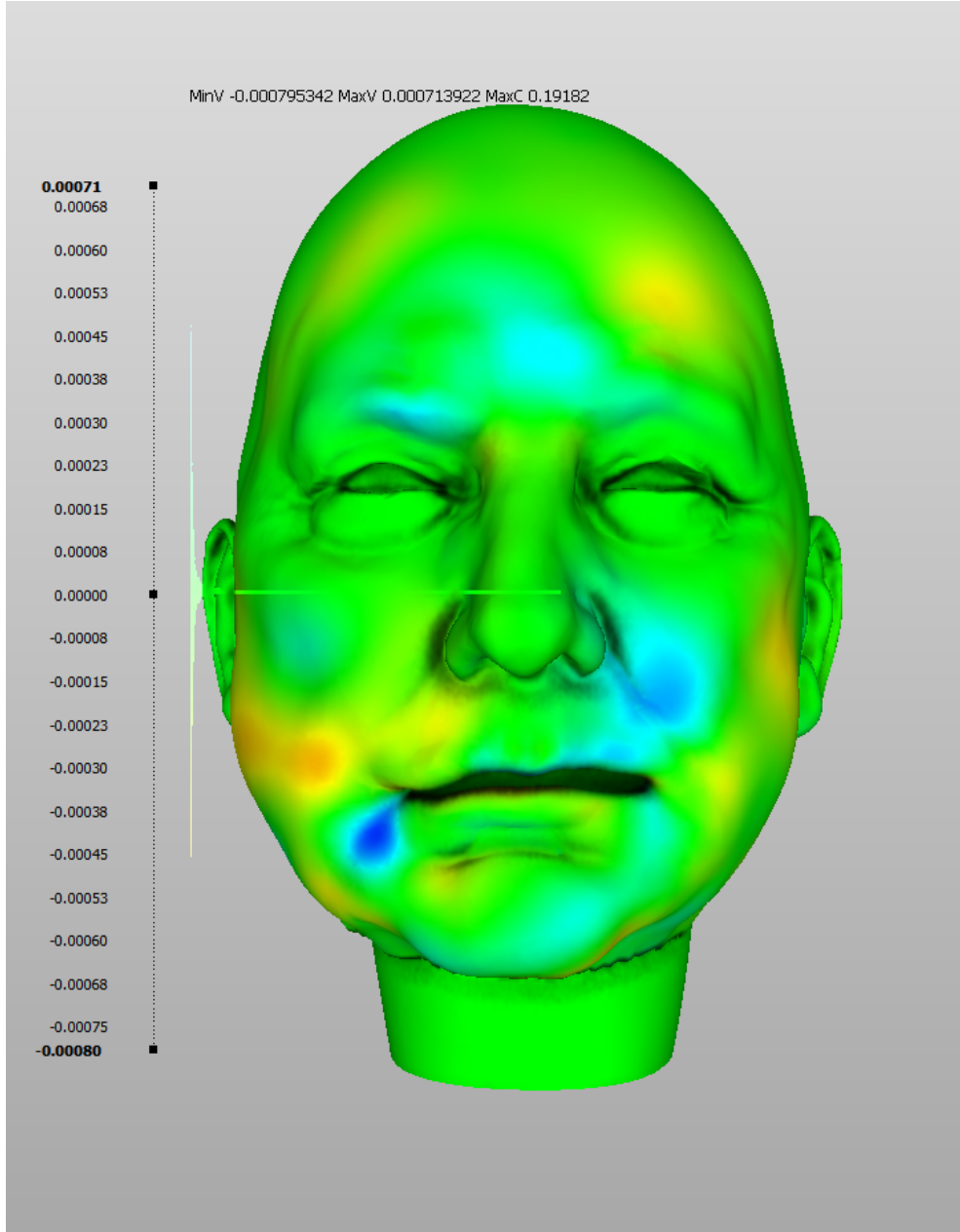**Figure 30**. Pose 0FF: Humanoid Audio-Animatronic® - Predicted

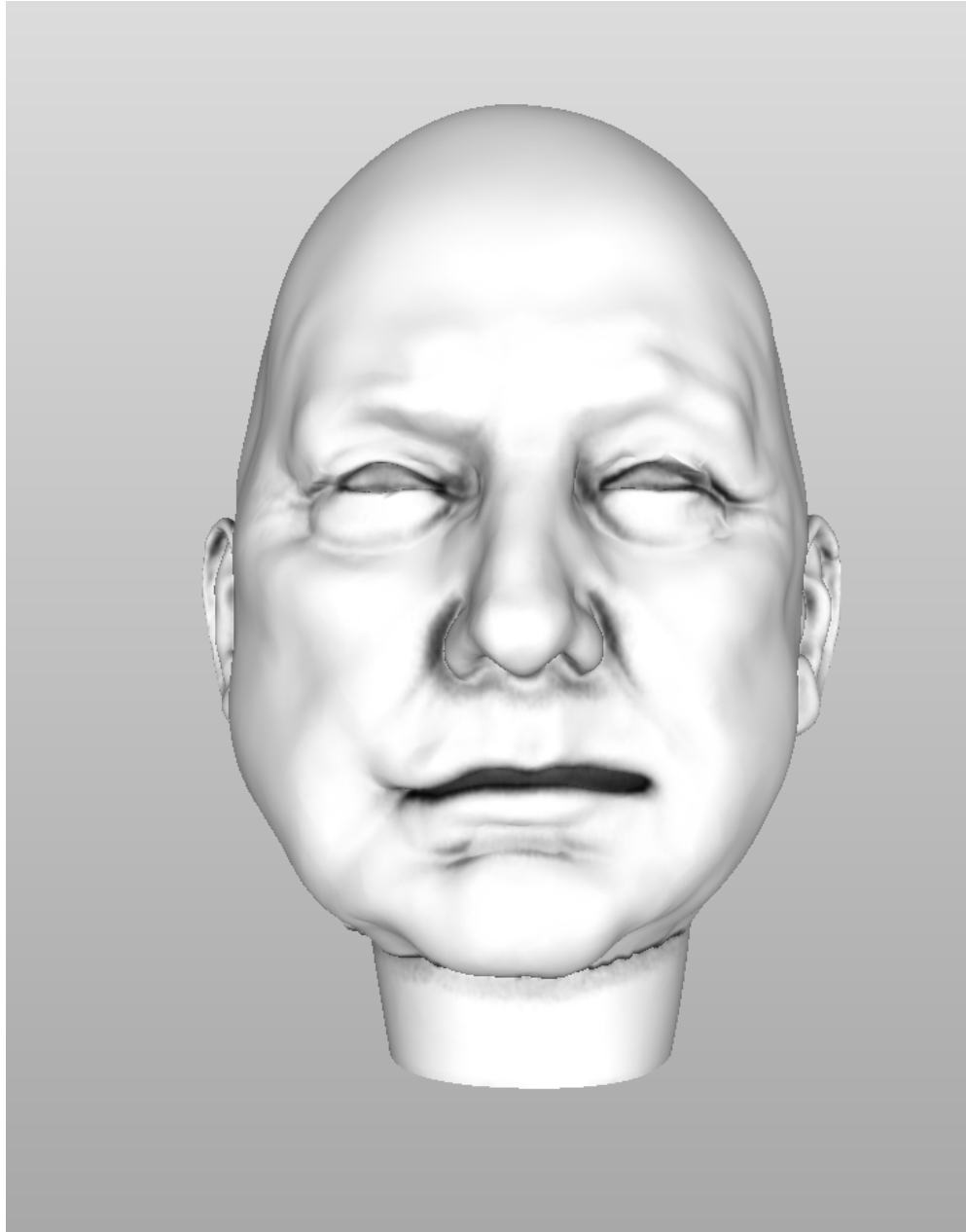**Figure 31**. Pose 1E4: Humanoid Audio-Animatronic® - Error Visualization

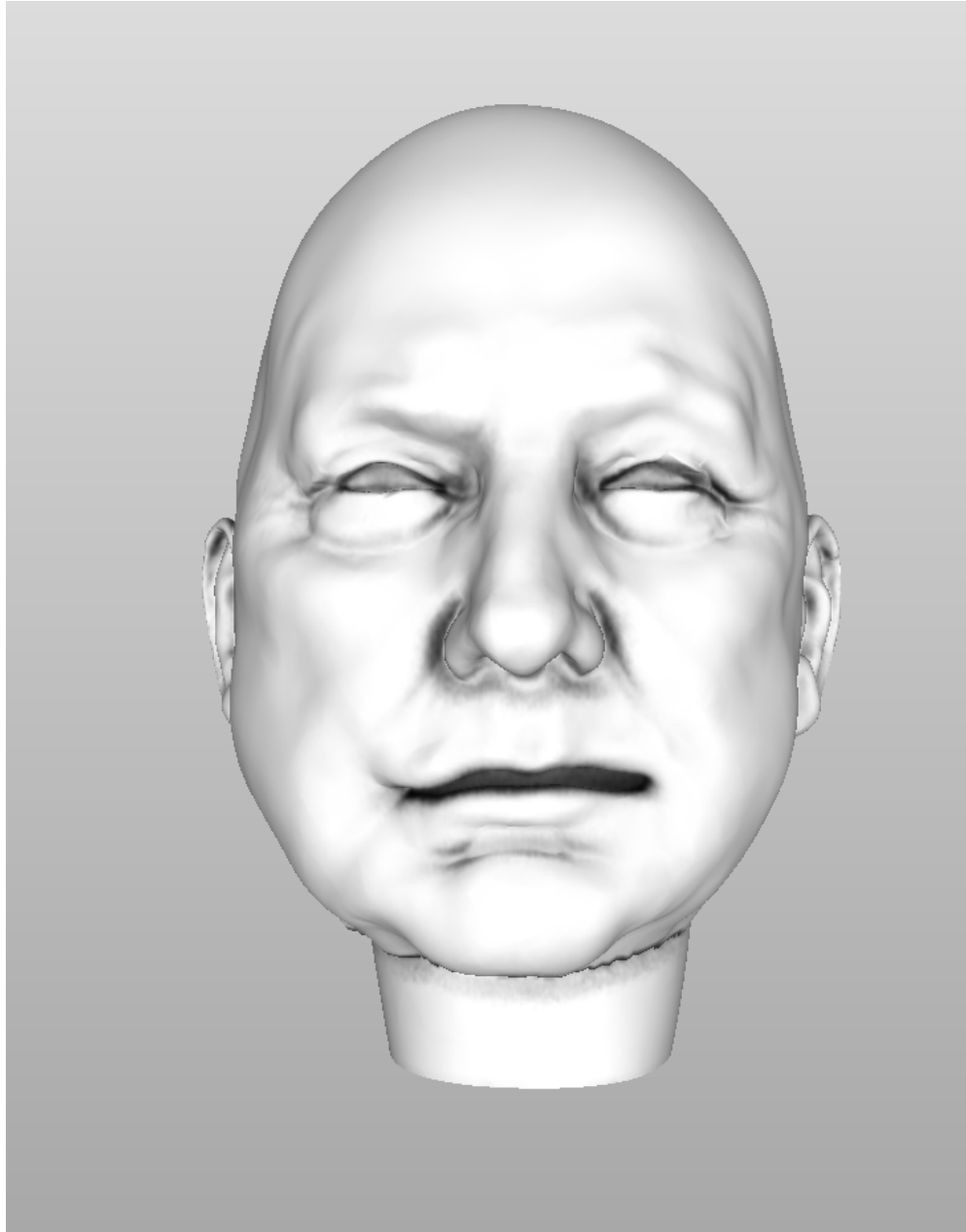**Figure 32**. Pose 1E4: Humanoid Audio-Animatronic® - Reference Simulation

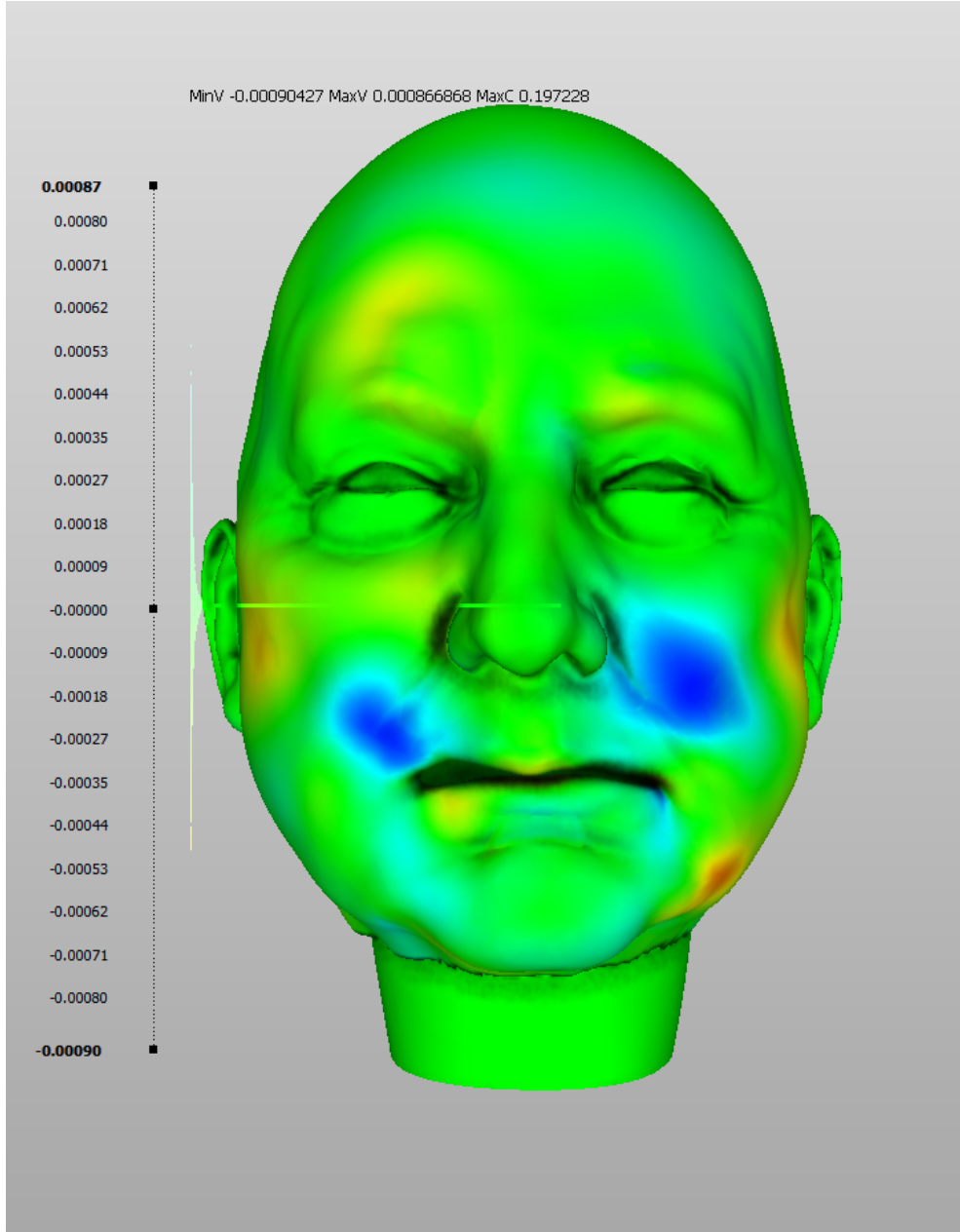**Figure 33**. Pose 1E4: Humanoid Audio-Animatronic® - Predicted

Figure 34. Pose 2AB: Humanoid Audio-Animatronic® - Error Visualization
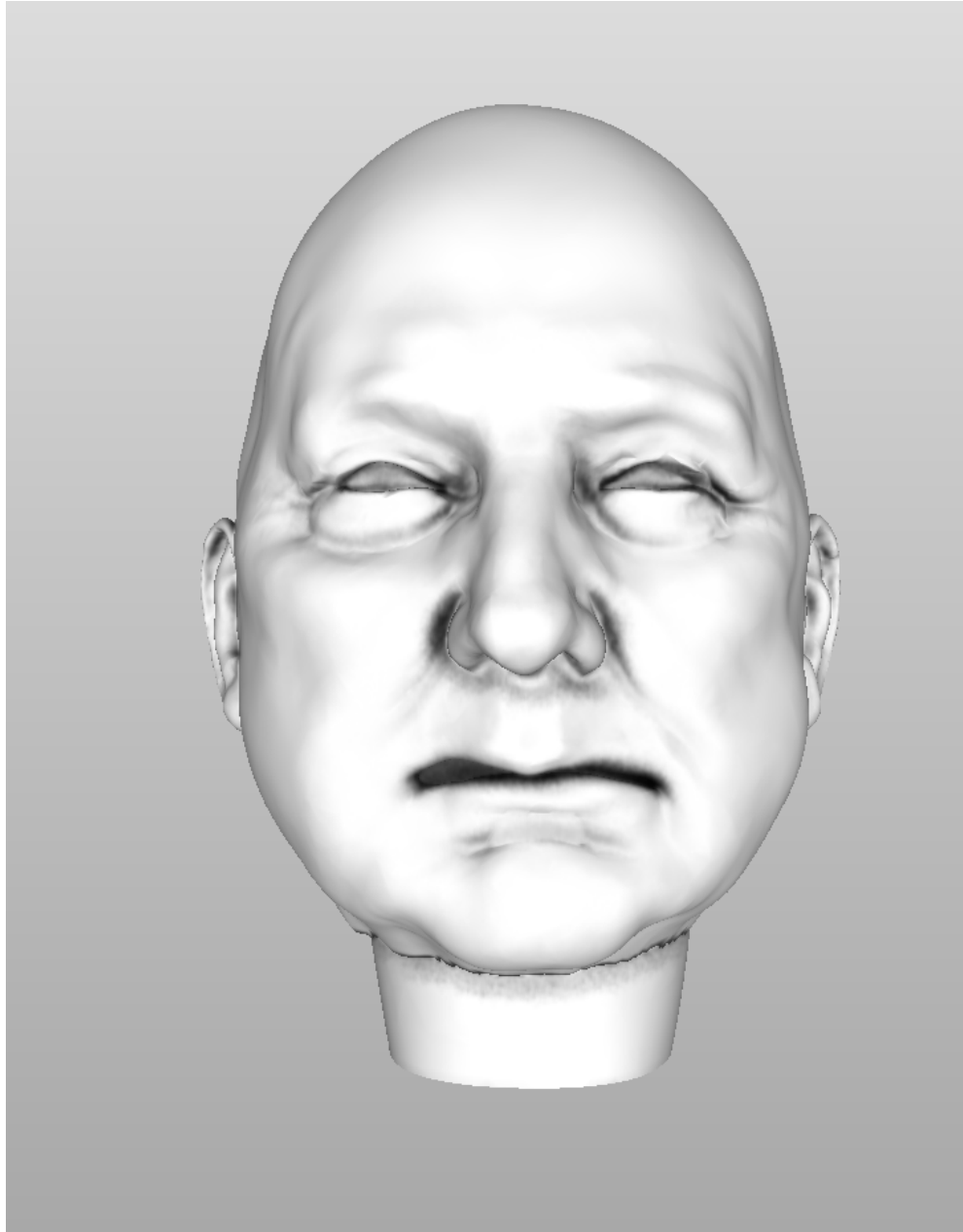
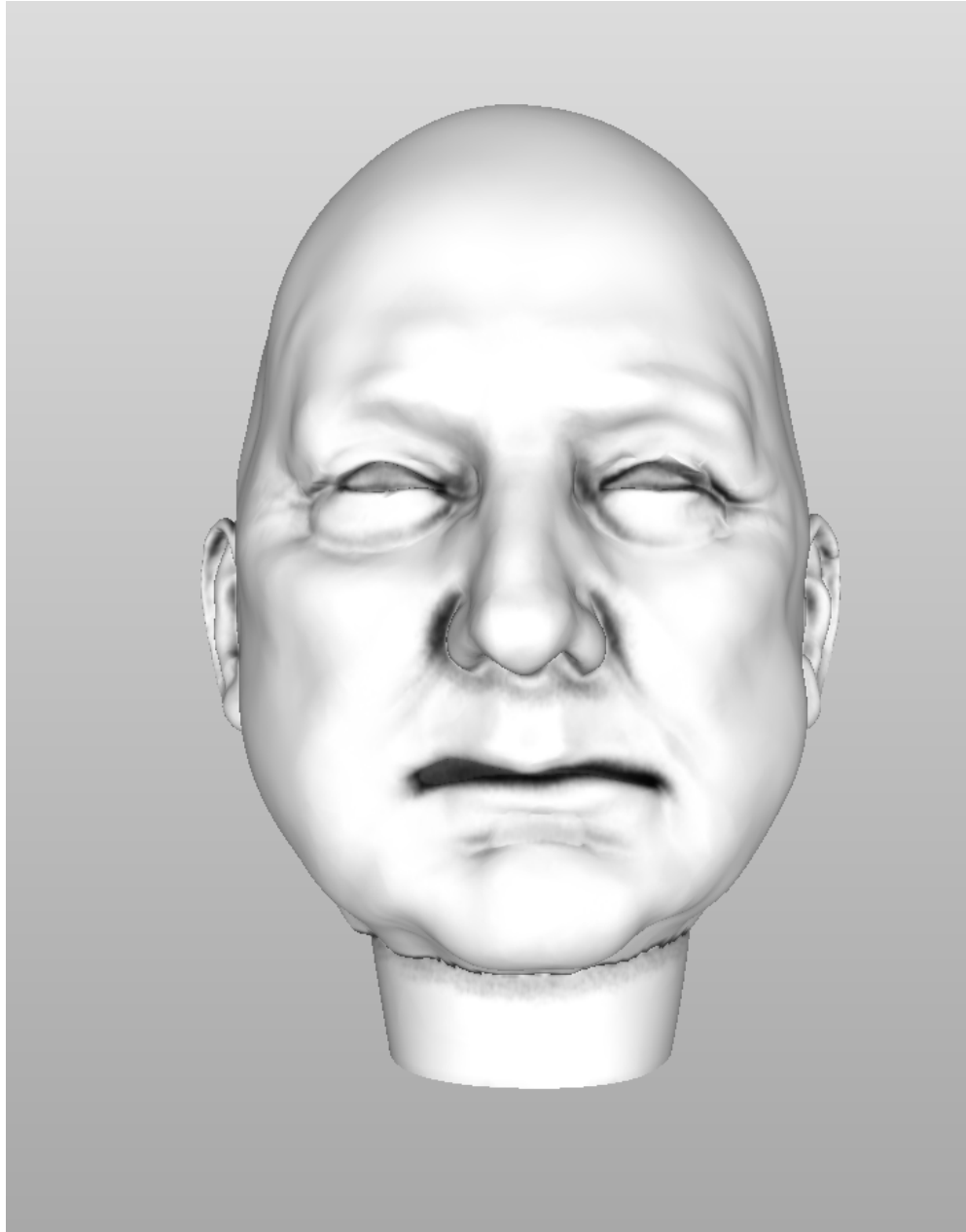**Figure 35**. Pose 2AB: Humanoid Audio-Animatronic® - Reference Simulation

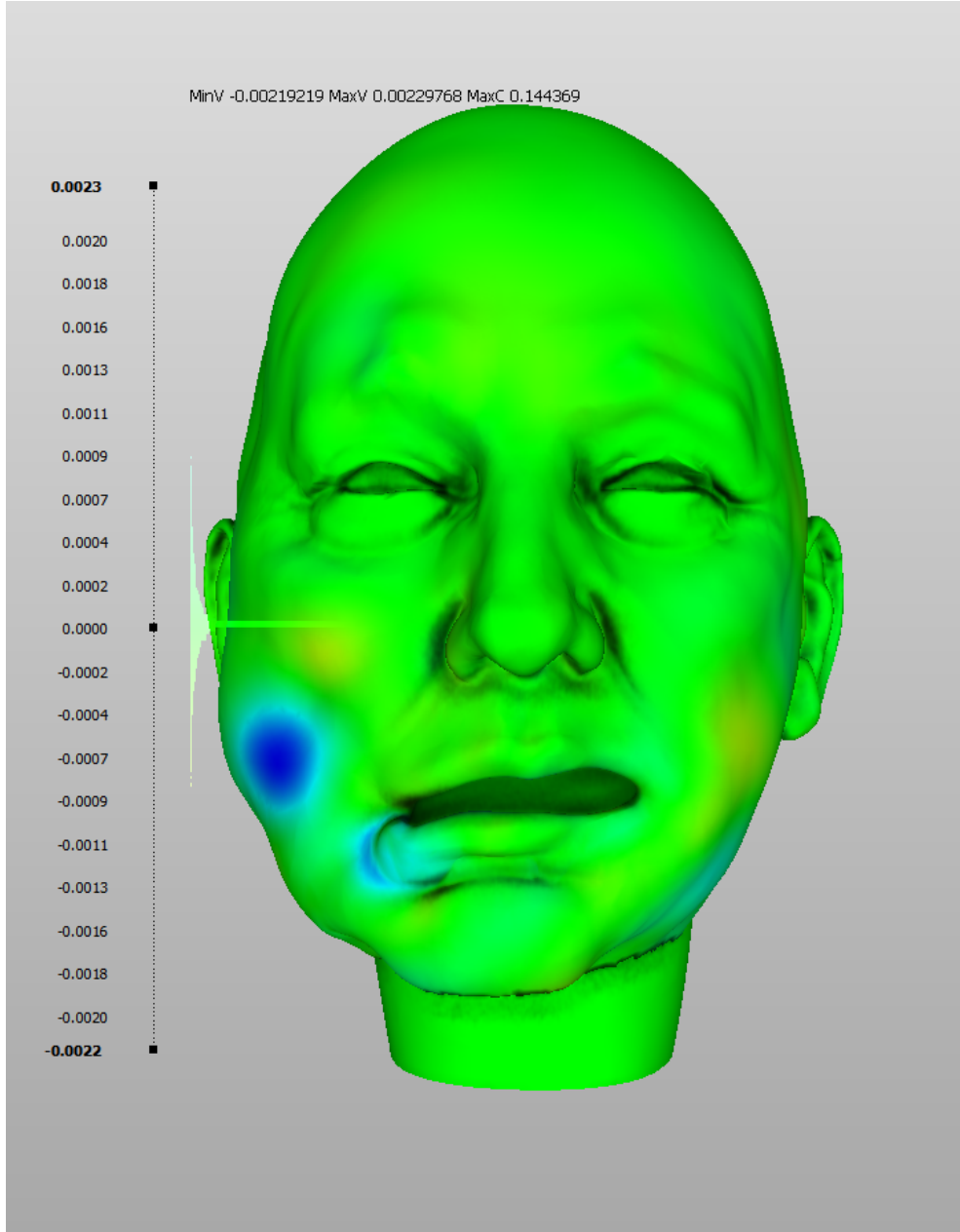**Figure 36**. Pose 2AB: Humanoid Audio-Animatronic® - Predicted

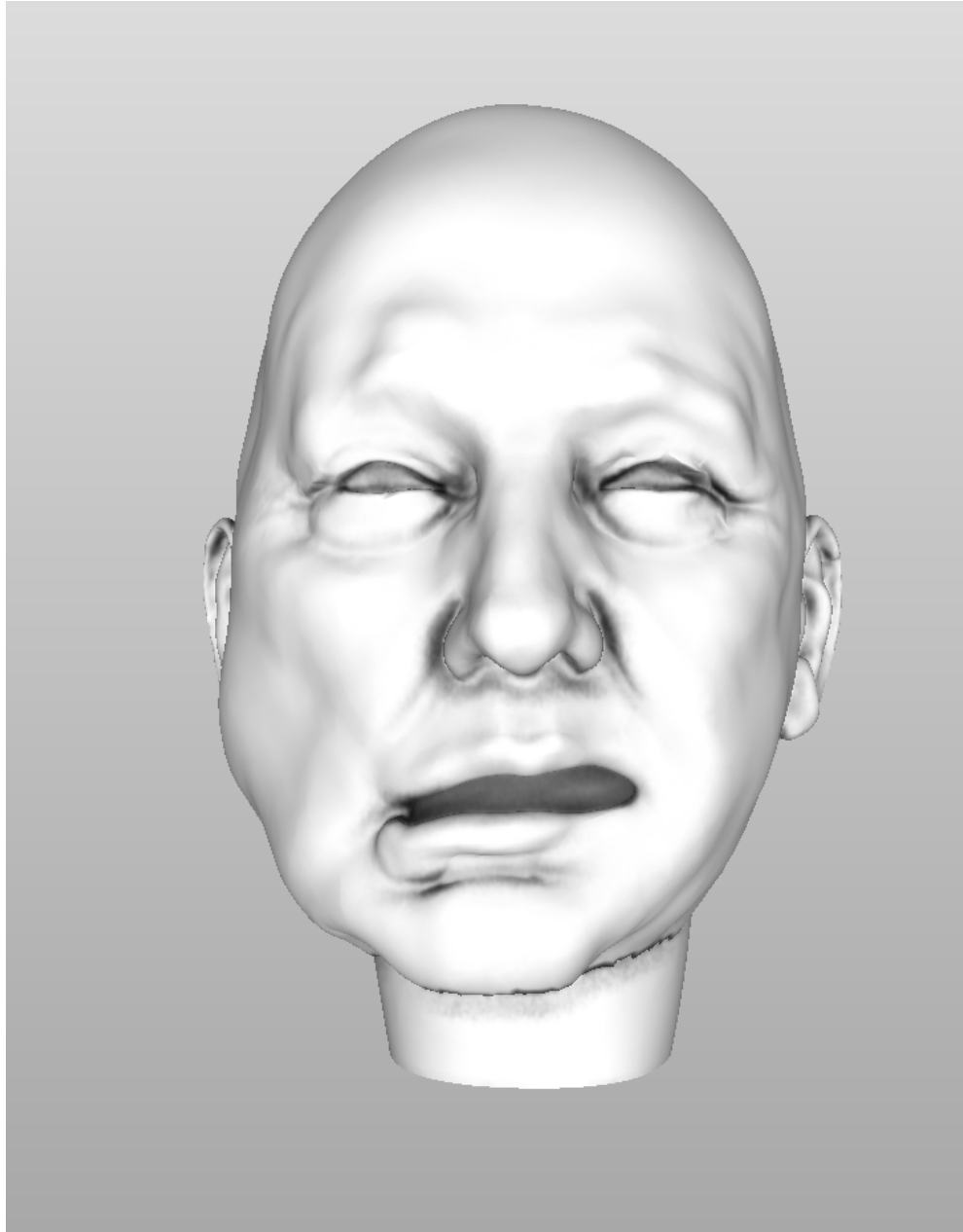**Figure 37**. Pose 2B6: Humanoid Audio-Animatronic® - Error Visualization

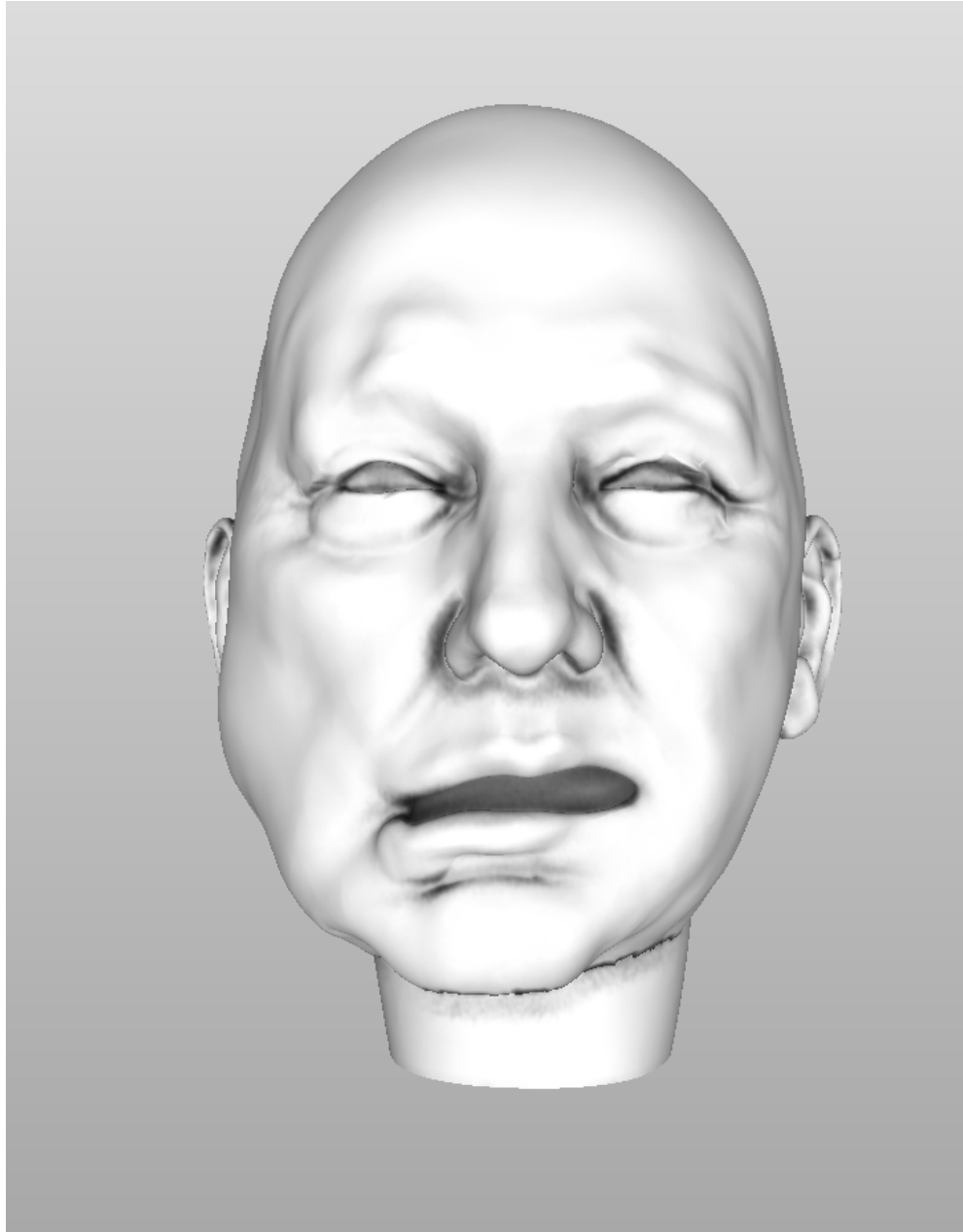**Figure 38**. Pose 2B6: Humanoid Audio-Animatronic® - Reference Simulation

Figure 39. Pose 2B6: Humanoid Audio-Animatronic® - Predicted
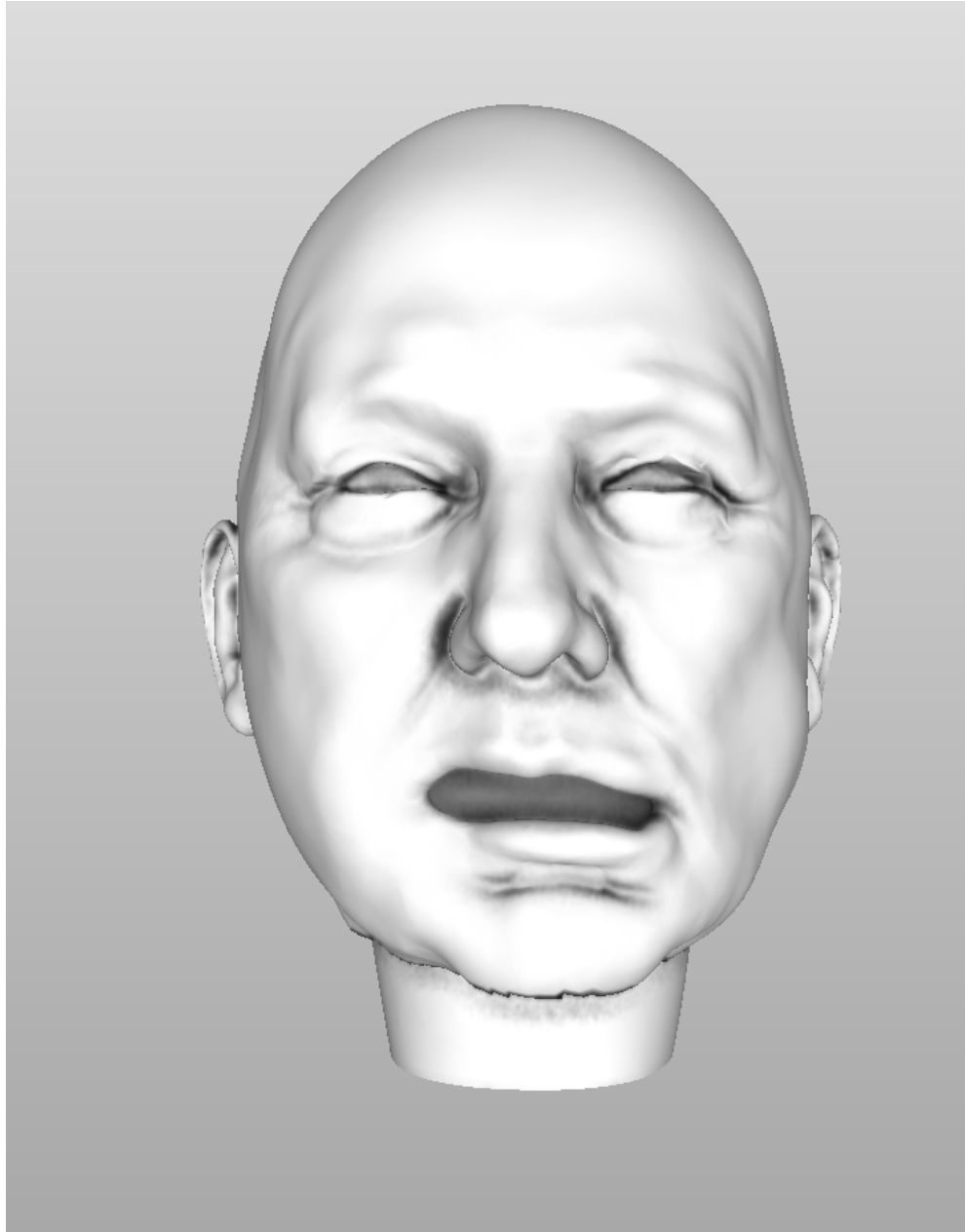
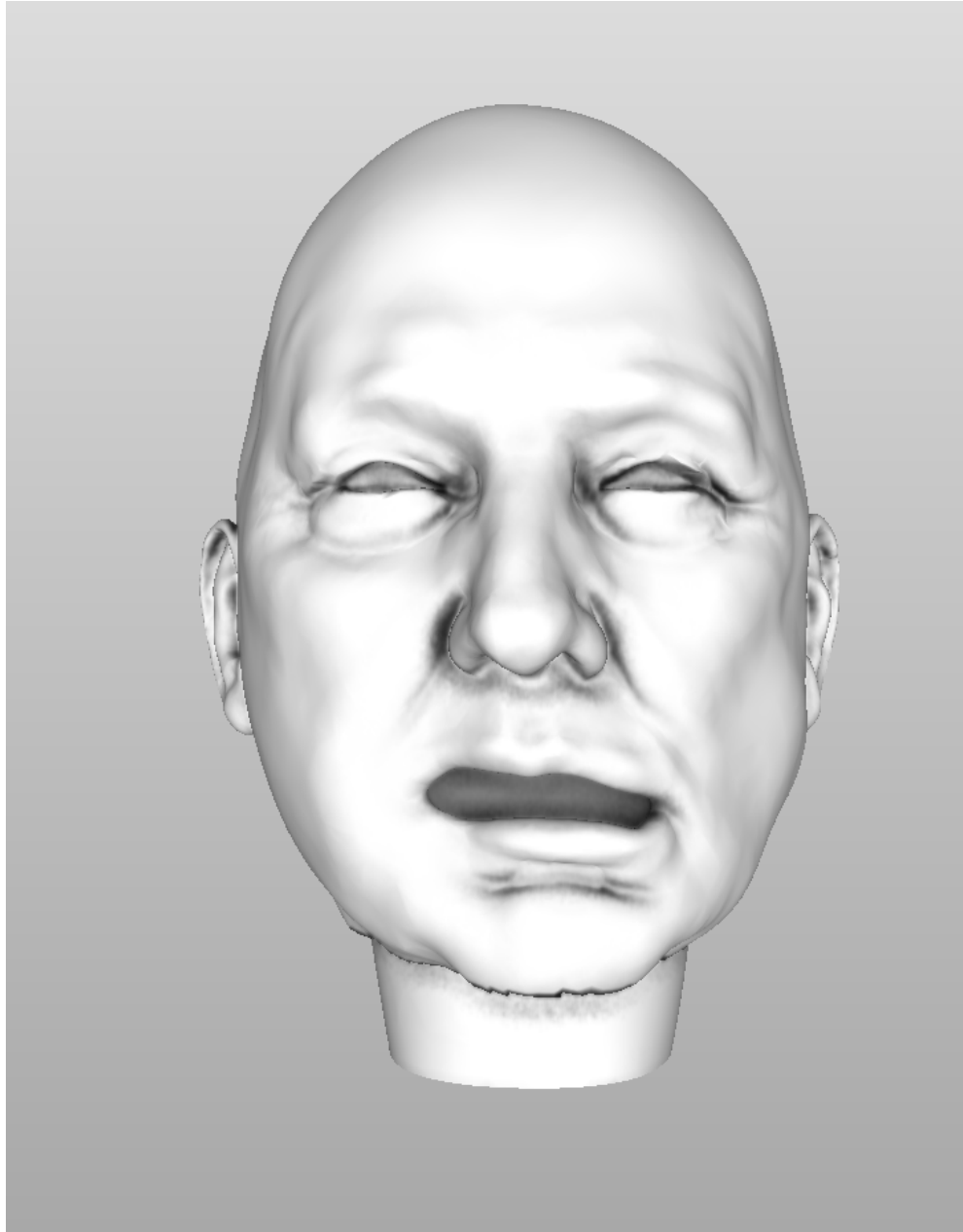**Figure 40**. Pose 2B9: Humanoid Audio-Animatronic® - Error Visualization

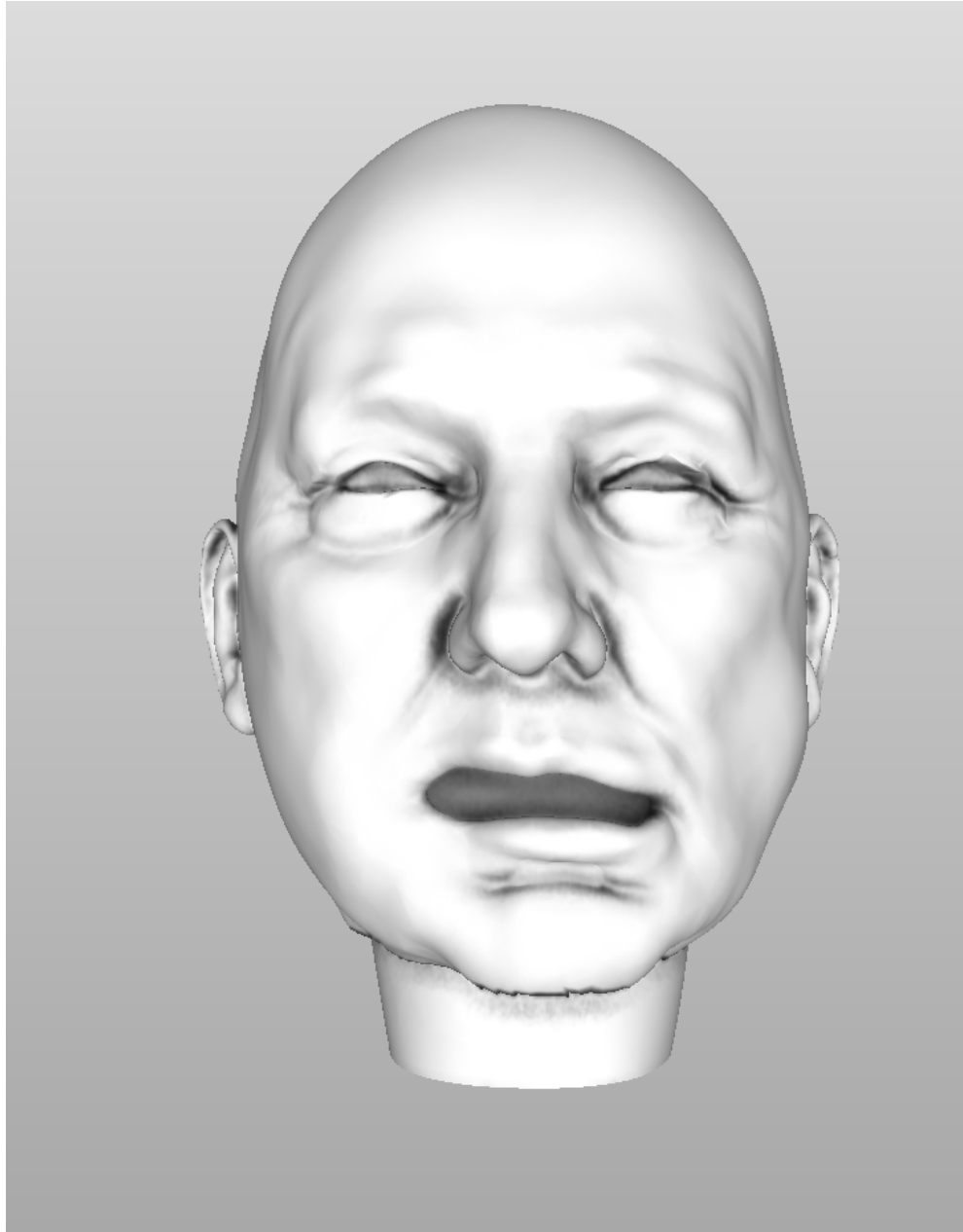**Figure 41**. Pose 2B9: Humanoid Audio-Animatronic® - Reference Simulation

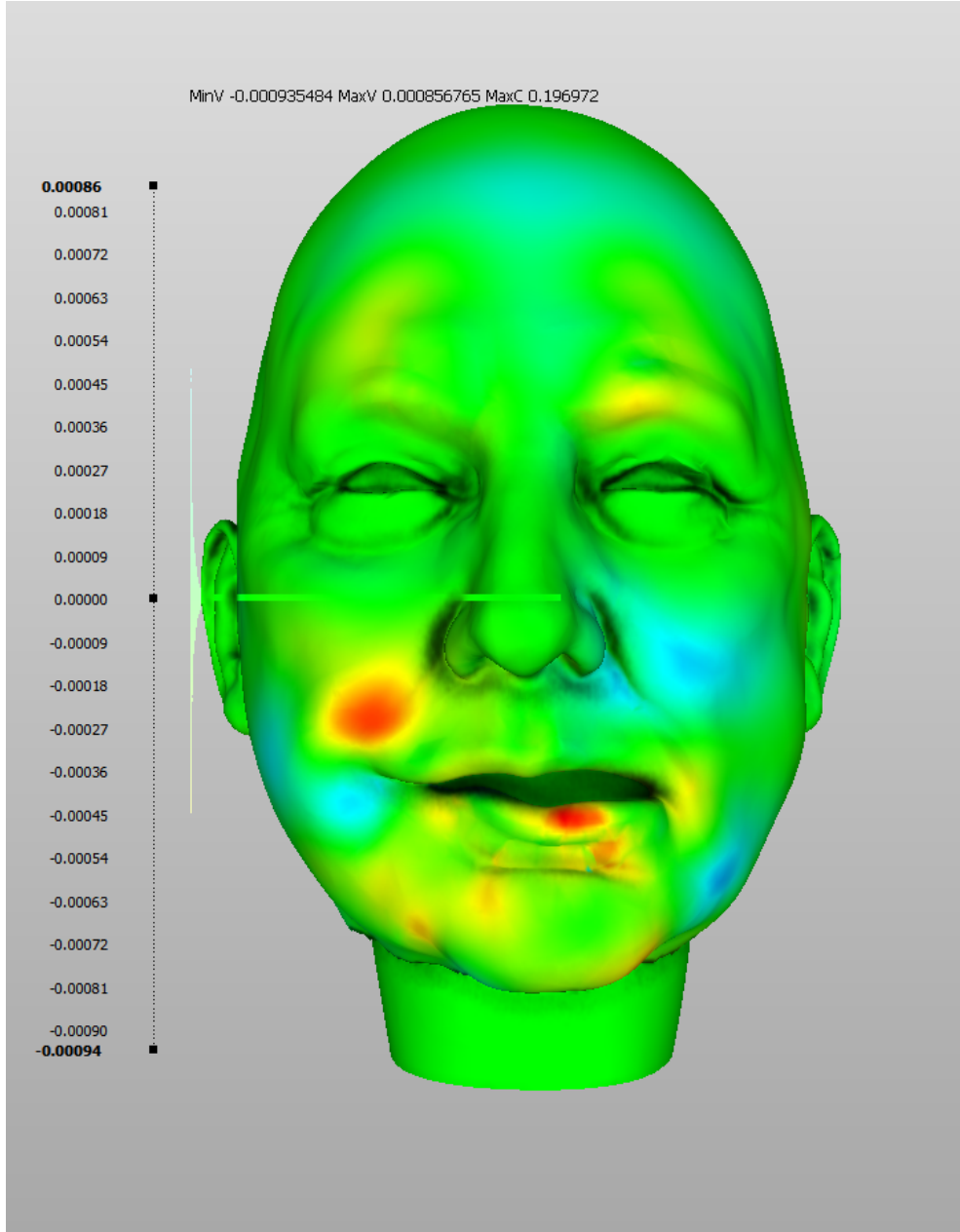**Figure 42**. Pose 2B9: Humanoid Audio-Animatronic® - Predicted

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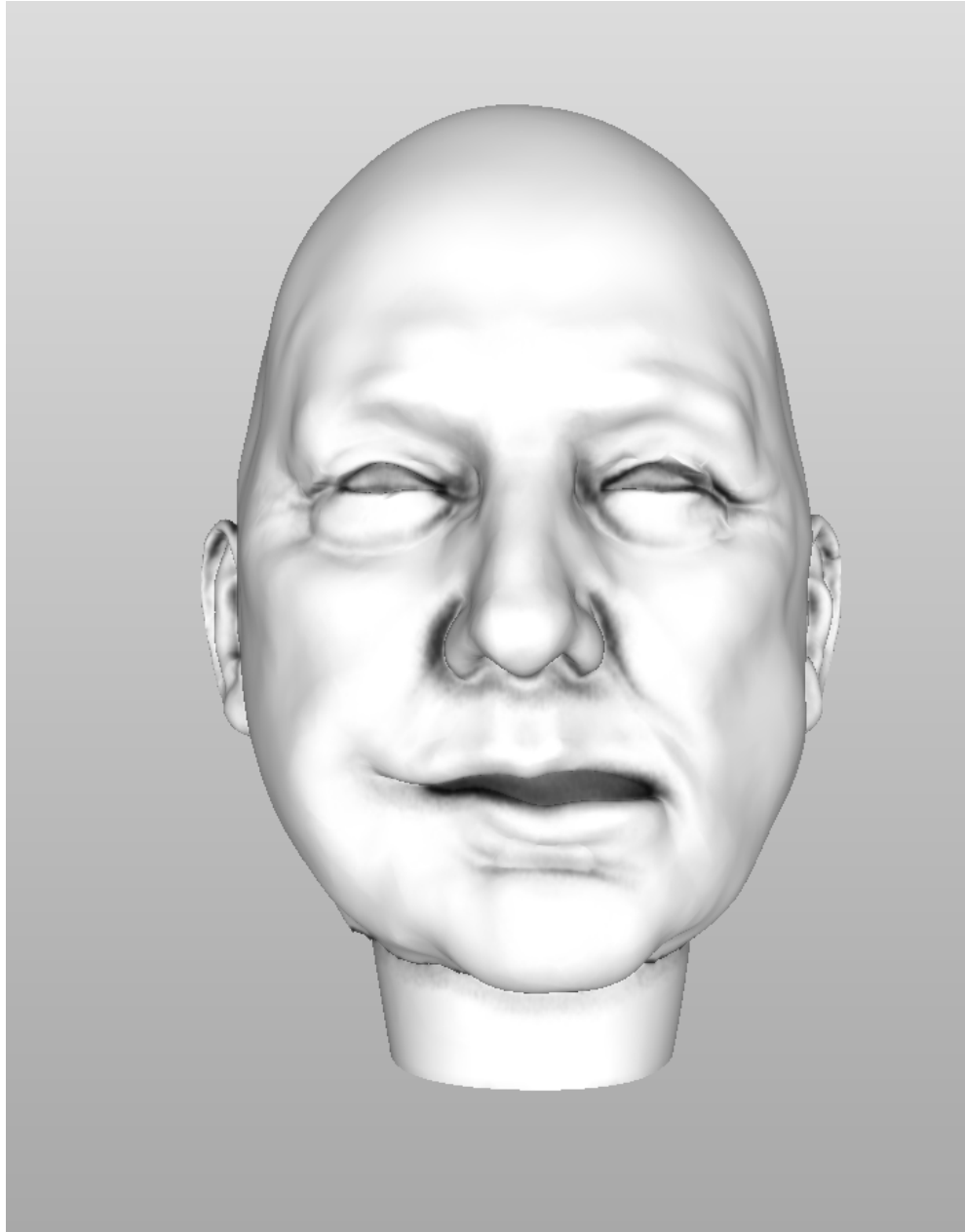**Figure 43**. Pose 3F4: Humanoid Audio-Animatronic® - Error Visualization

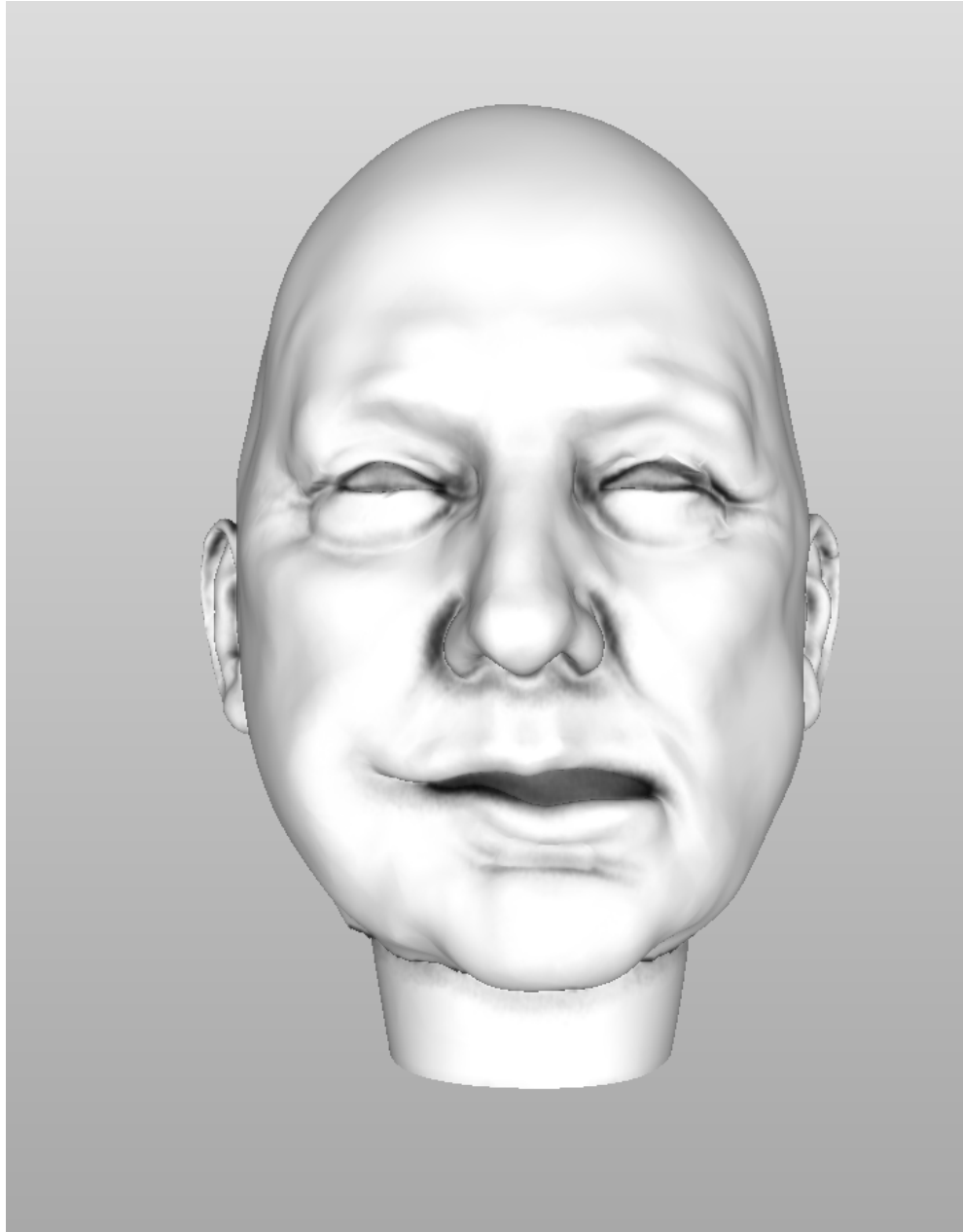**Figure 44**. Pose 3F4: Humanoid Audio-Animatronic® - Reference Simulation

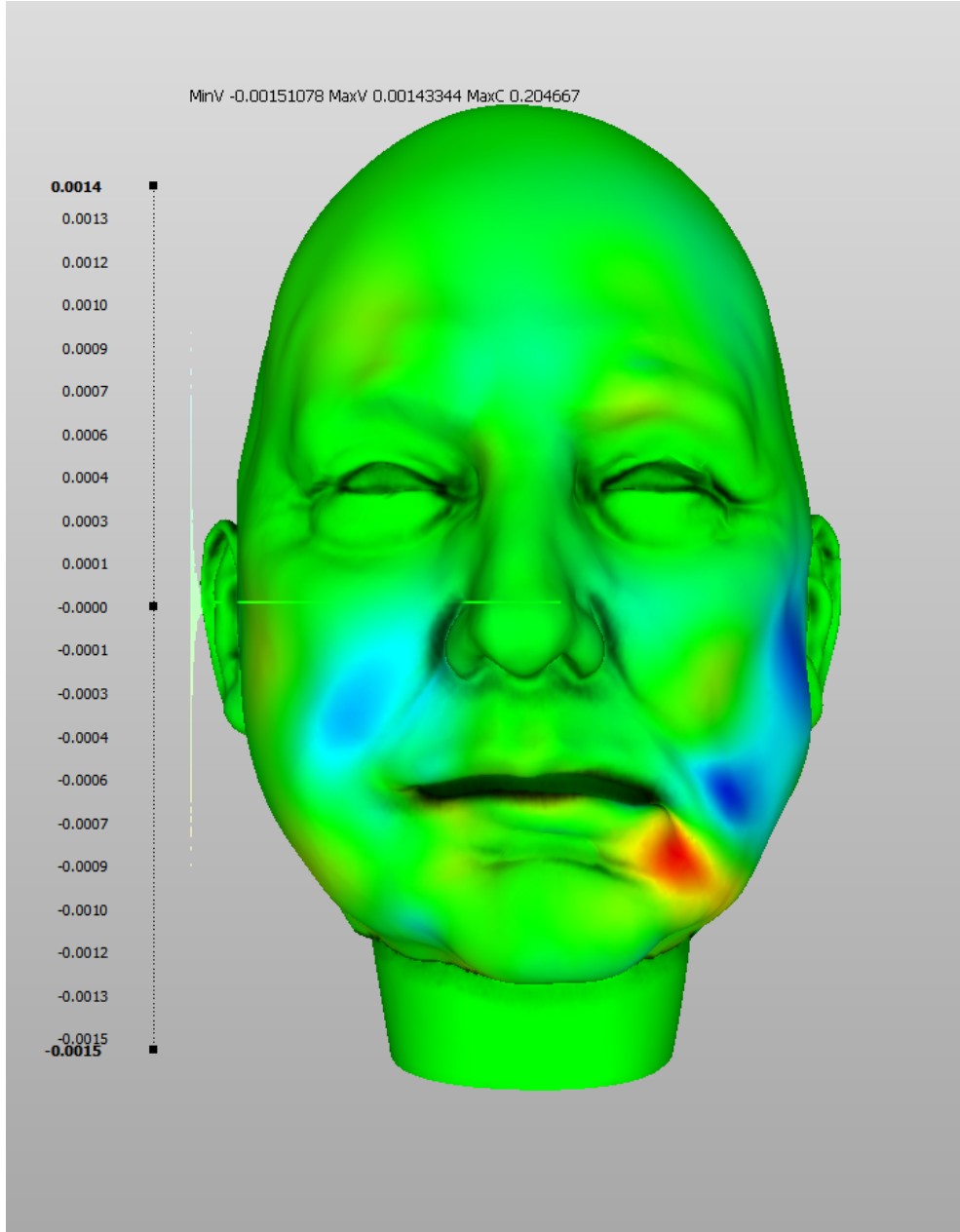**Figure 45**. Pose 3F4: Humanoid Audio-Animatronic® - Predicted

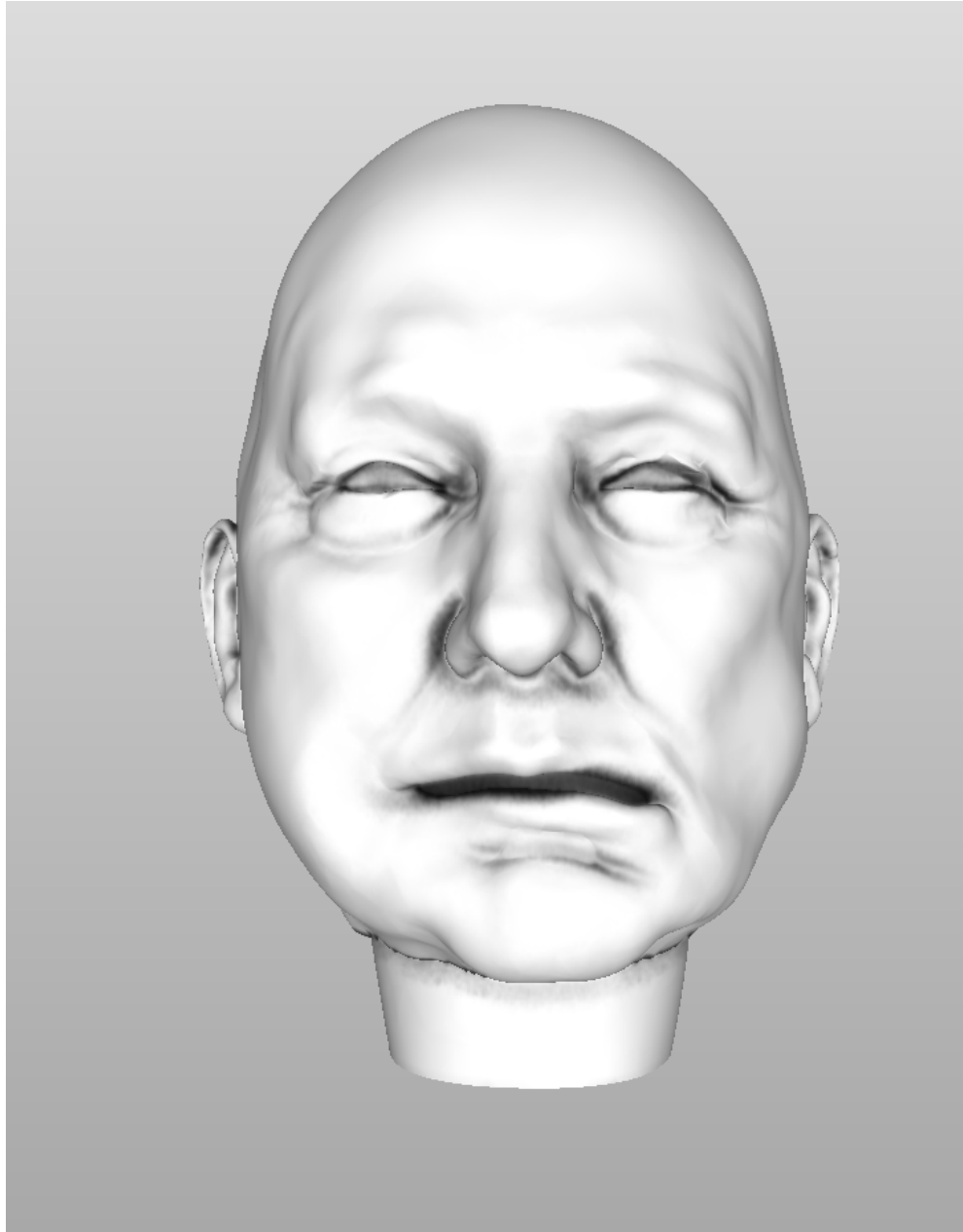**Figure 46**. Pose 63F: Humanoid Audio-Animatronic® - Error Visualization

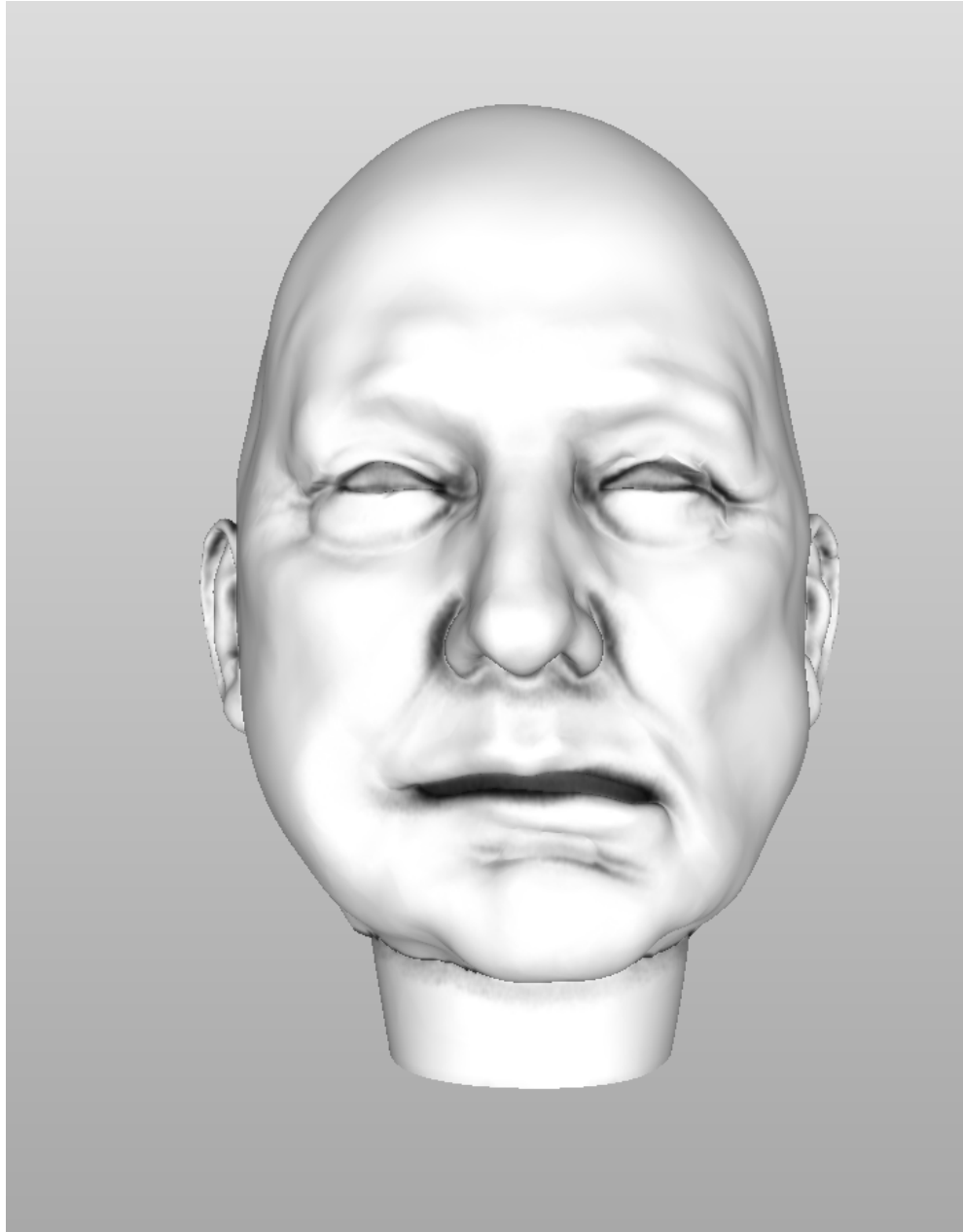**Figure 47**. Pose 63F: Humanoid Audio-Animatronic® - Reference Simulation

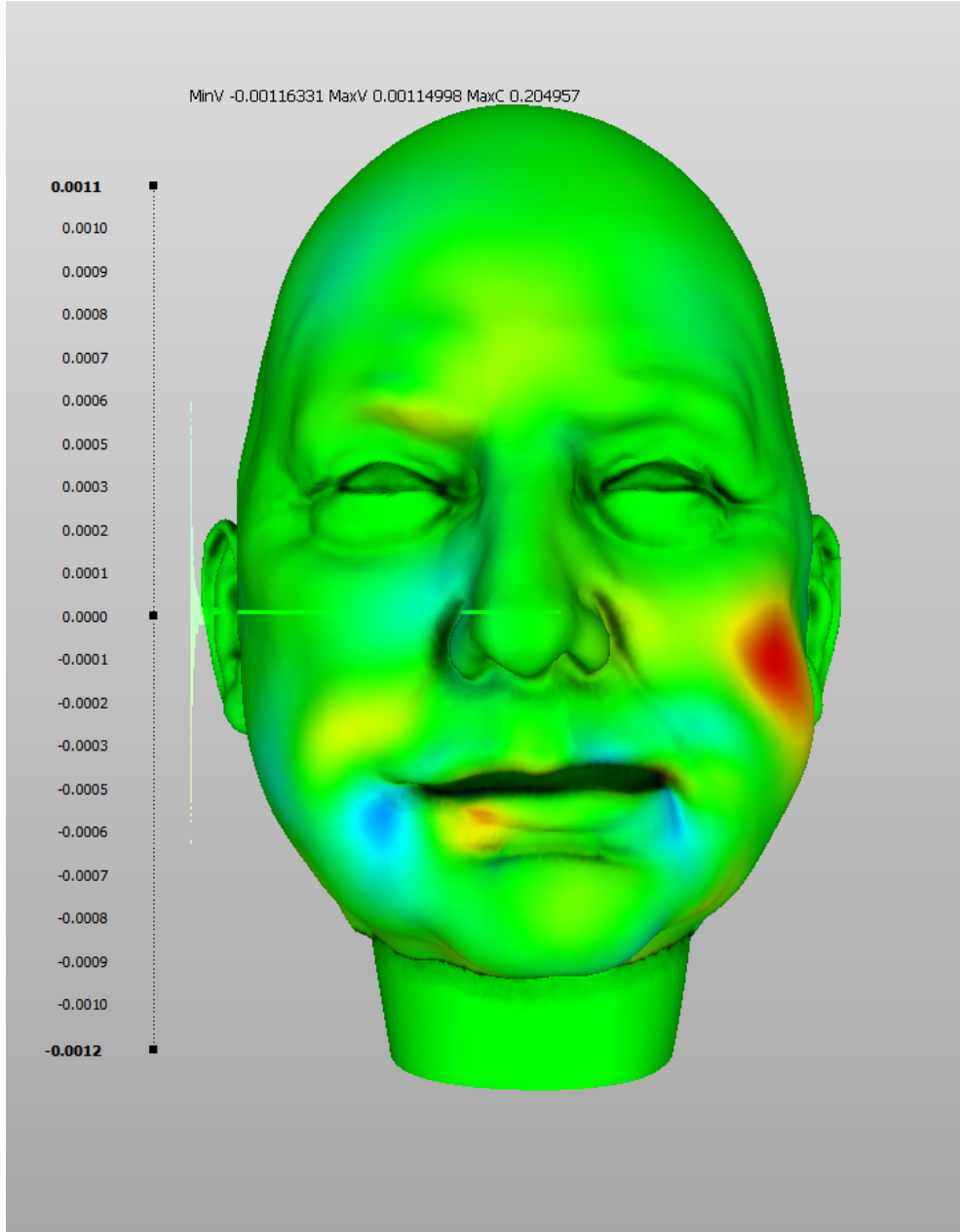**Figure 48**. Pose 63F: Humanoid Audio-Animatronic® - Predicted

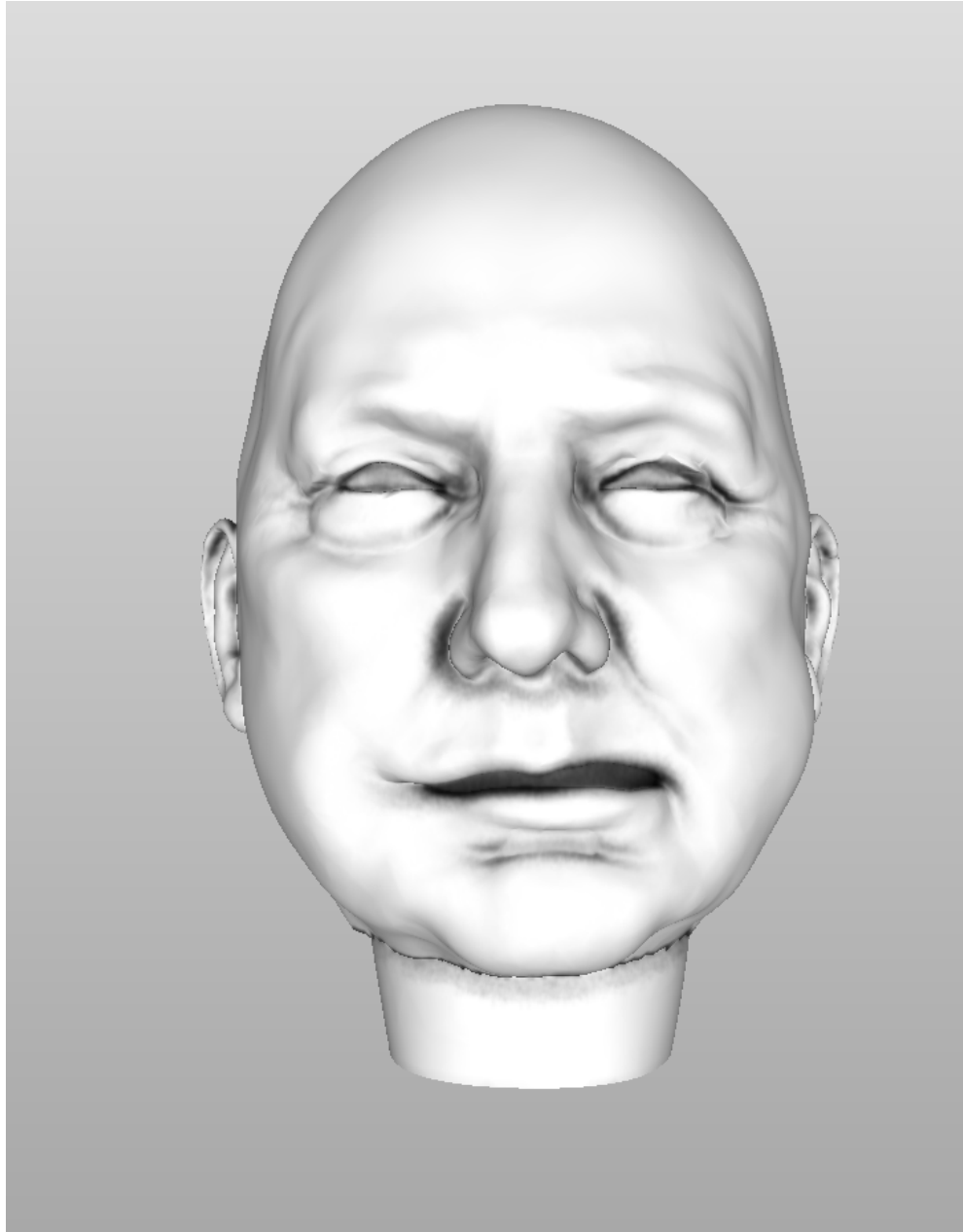**Figure 49**. Pose 64B: Humanoid Audio-Animatronic® - Error Visualization

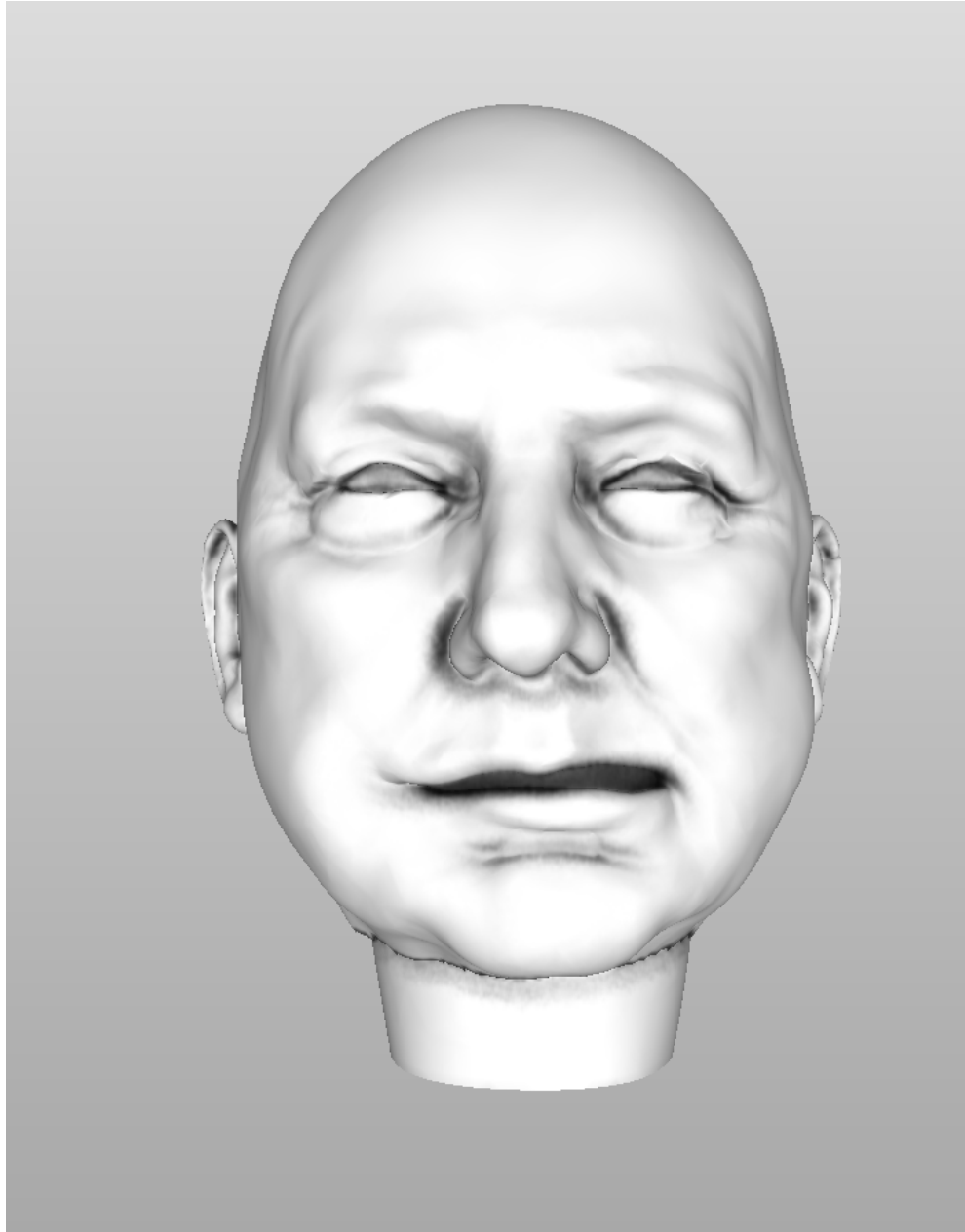**Figure 50**. Pose 64B: Humanoid Audio-Animatronic® - Reference Simulation

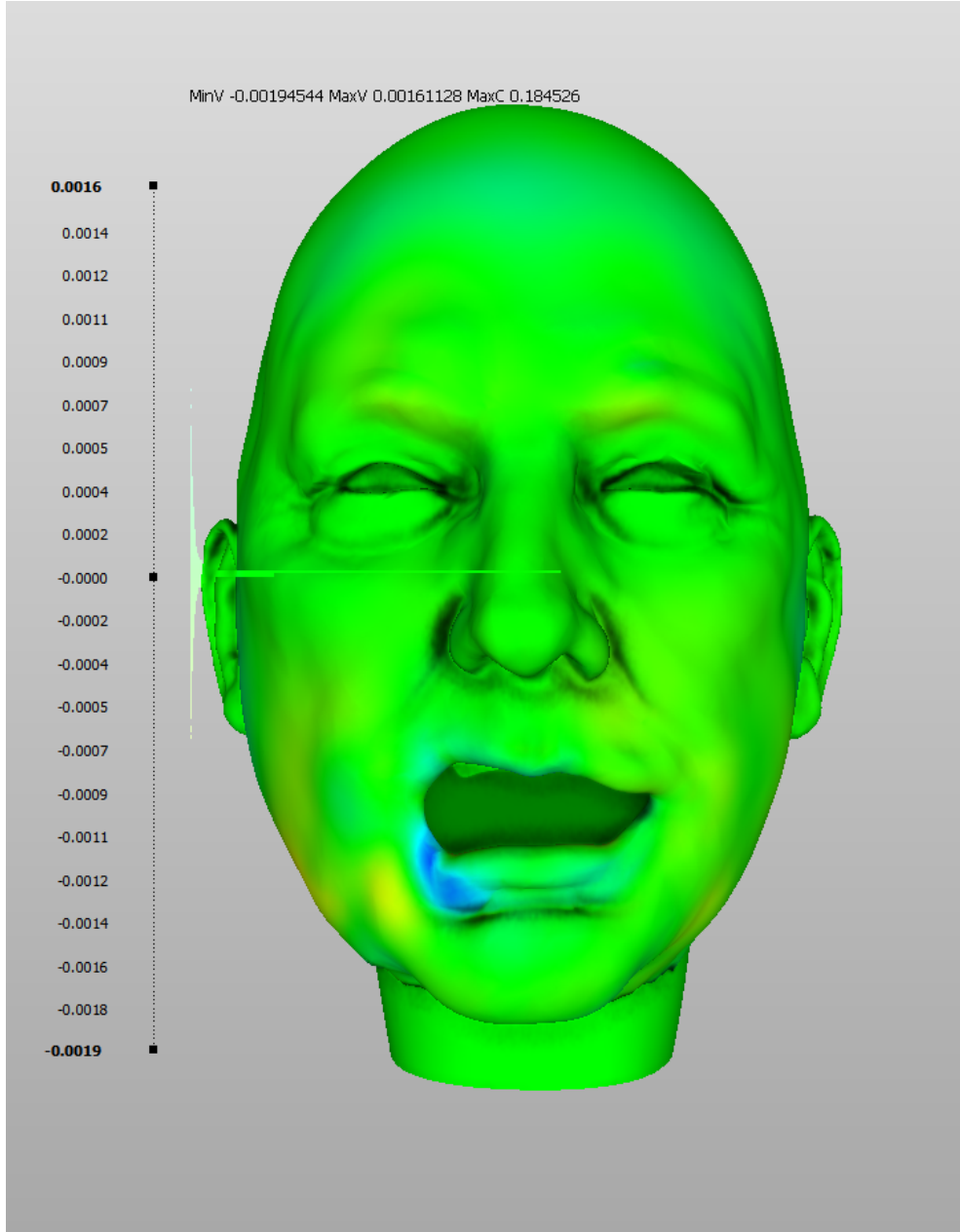**Figure 51**. Pose 64B: Humanoid Audio-Animatronic® - Predicted

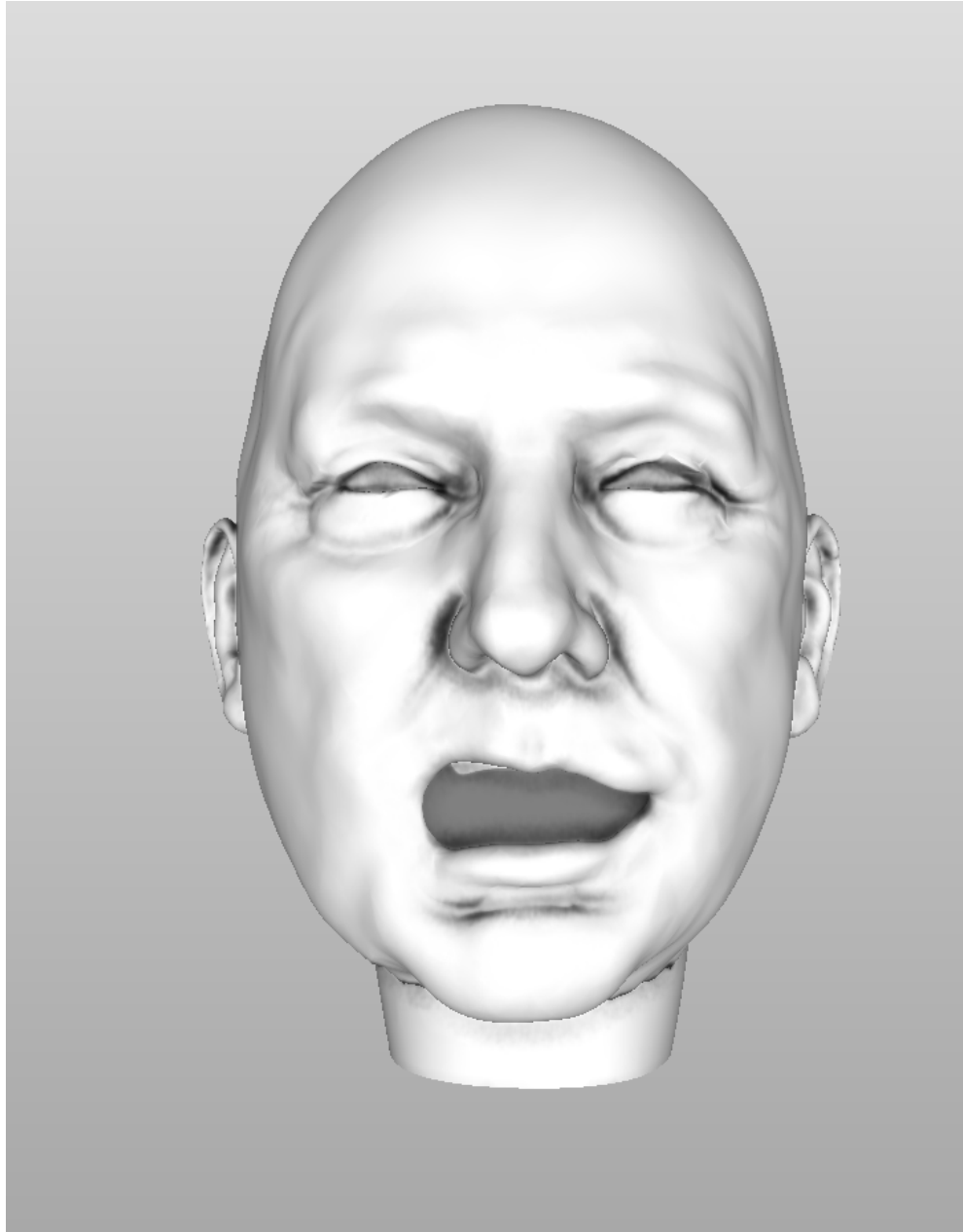**Figure 52**. Pose 698: Humanoid Audio-Animatronic® - Error Visualization

Figure 53. Pose 698: Humanoid Audio-Animatronic® - Reference Simulation

Figure 54. Pose 698: Humanoid Audio-Animatronic® - Predicted

MinV -0.00194254 MaxV 0.0025638 MaxC 0.212634

Figure 55. Pose 6D6: Humanoid Audio-Animatronic® - Error Visualization

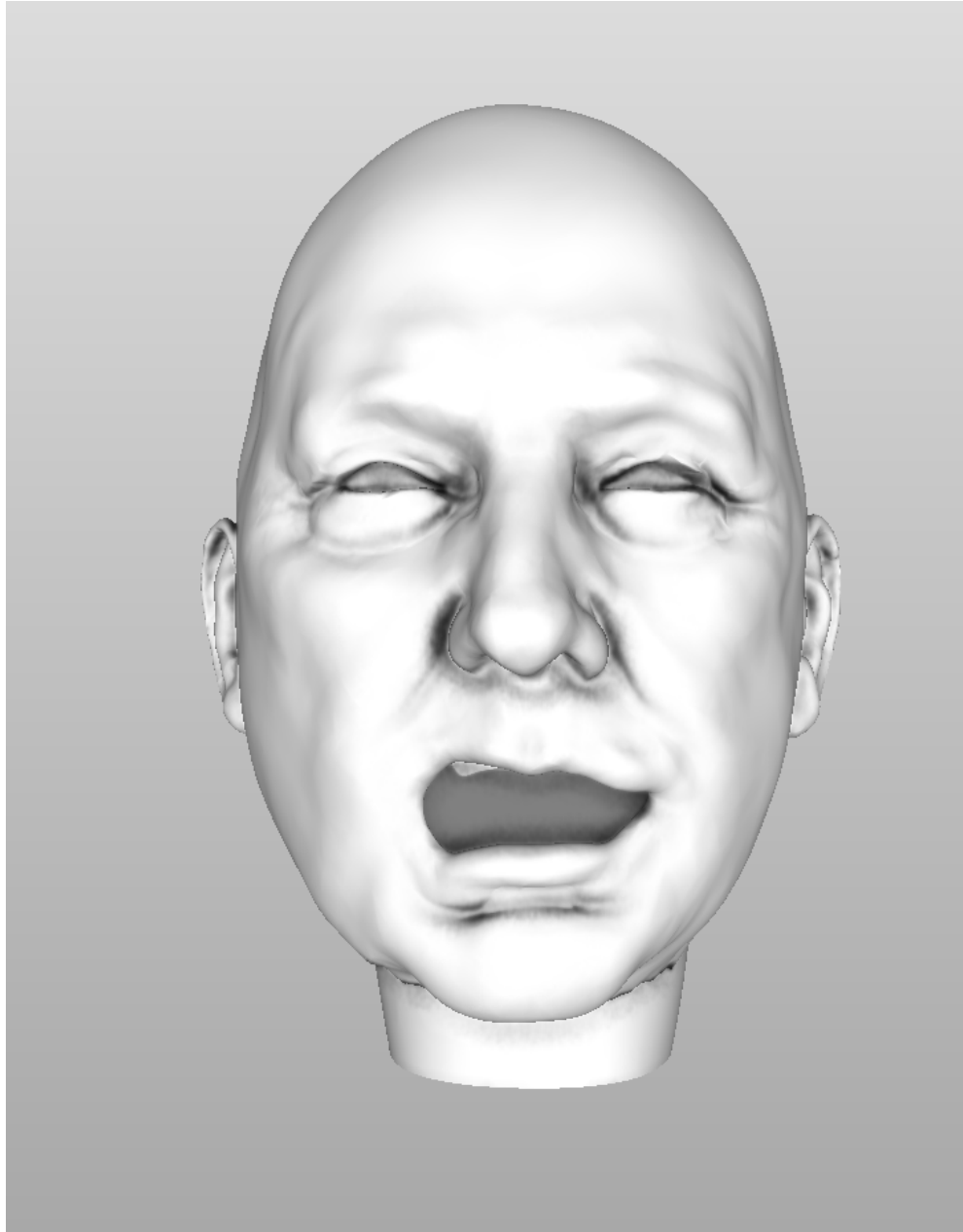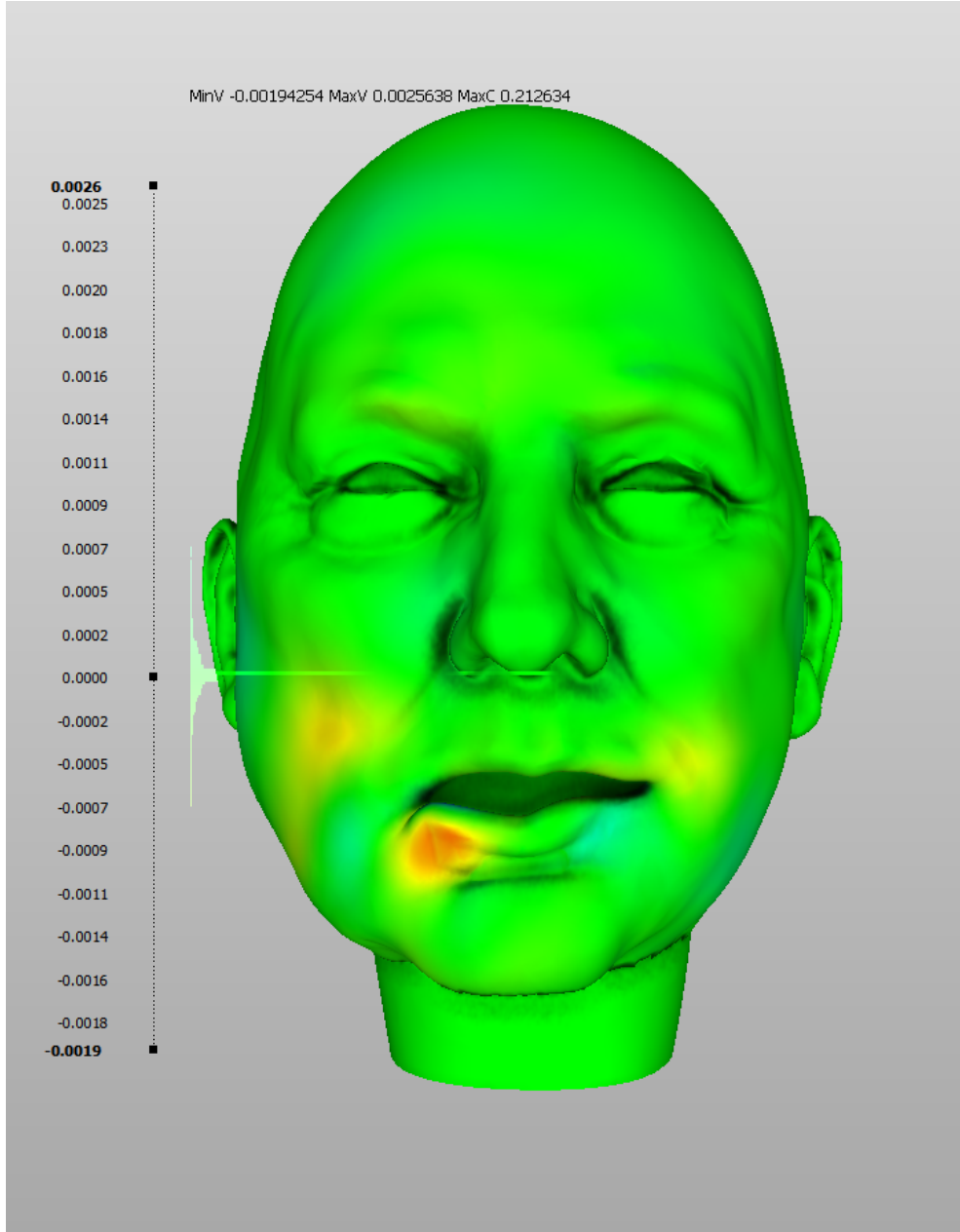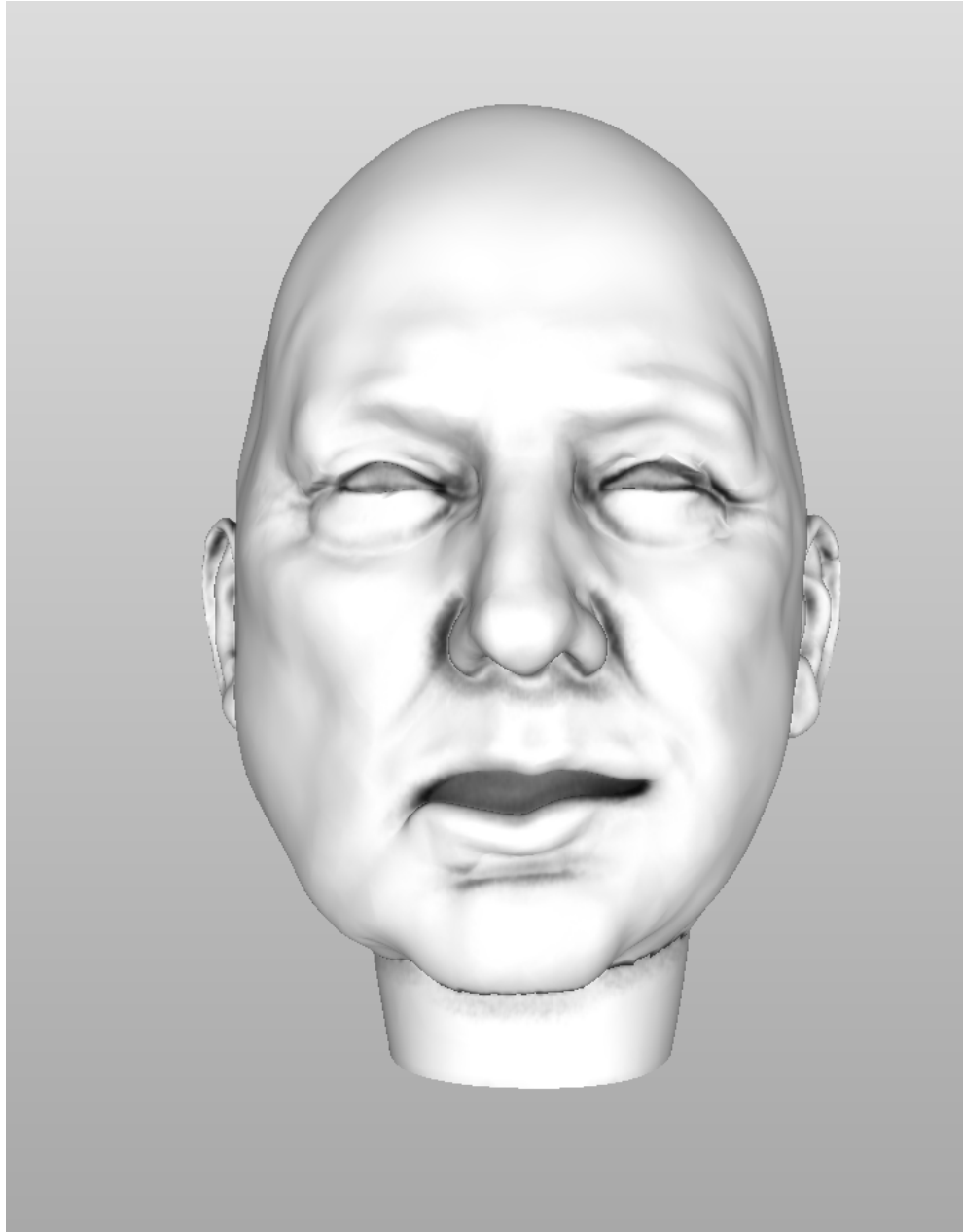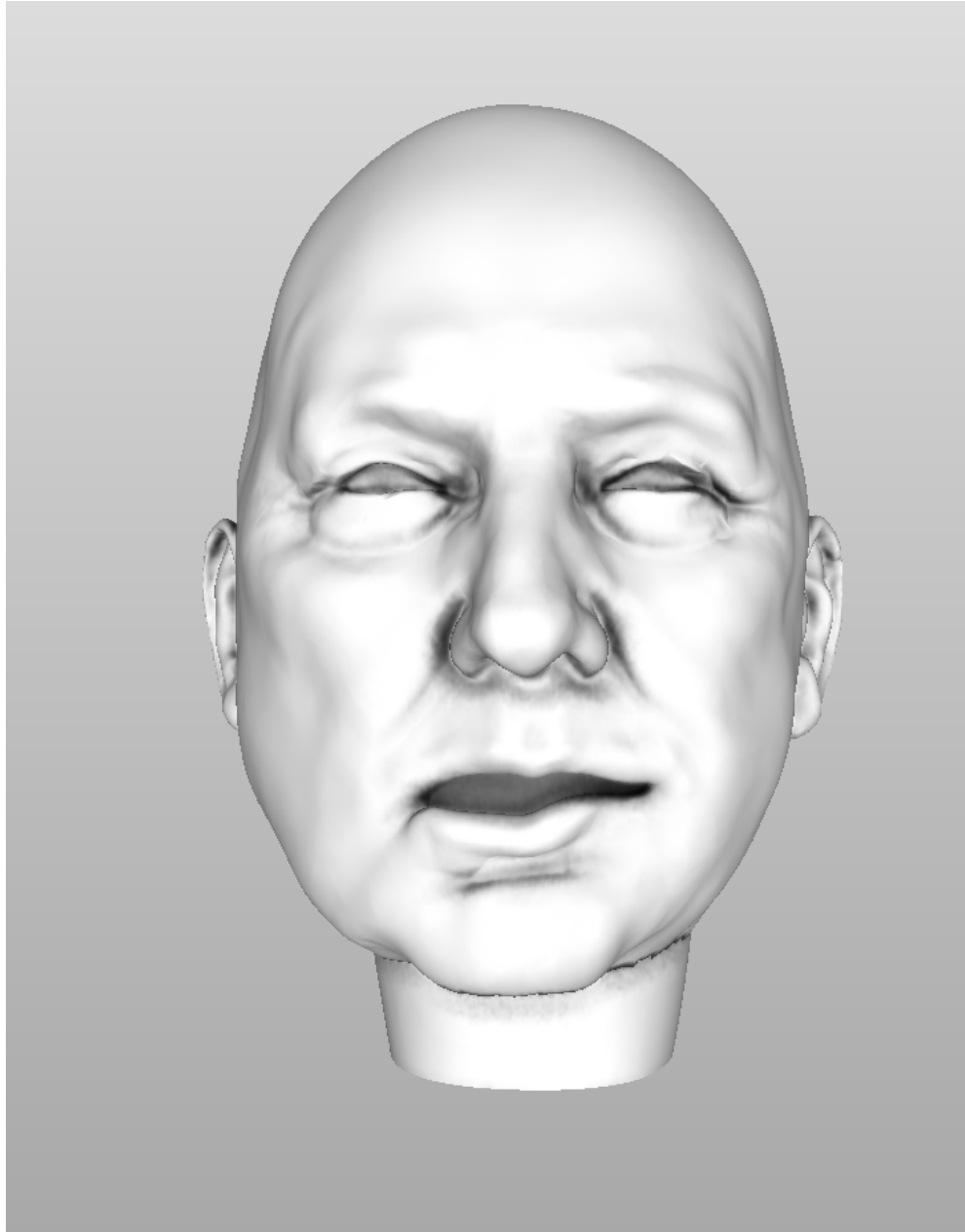**Figure 56**. Pose 6D6: Humanoid Audio-Animatronic® - Reference Simulation

Figure 57. Pose 6D6: Humanoid Audio-Animatronic® - Predicted
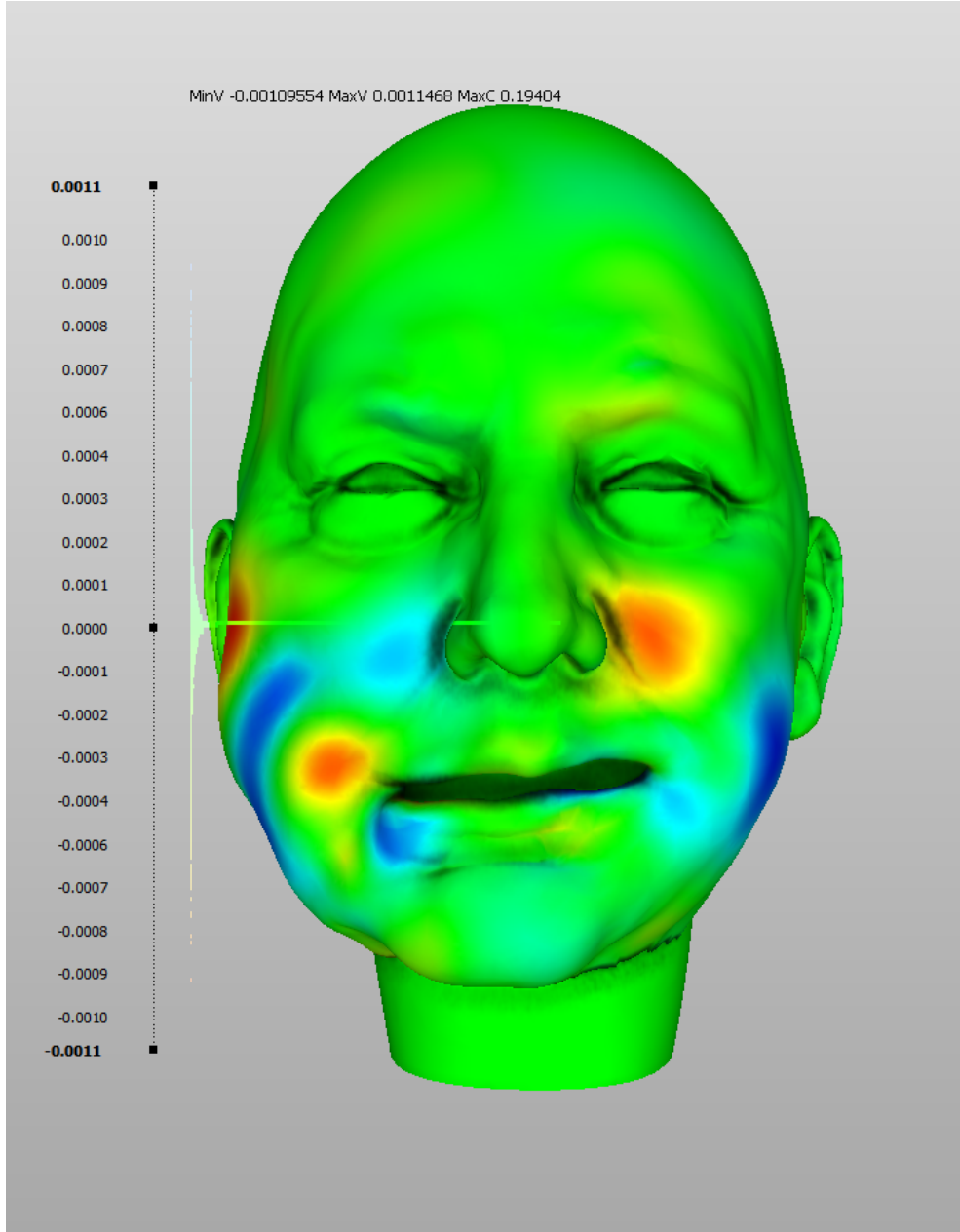
Figure 58. Pose 8B3: Humanoid Audio-Animatronic® - Error Visualization
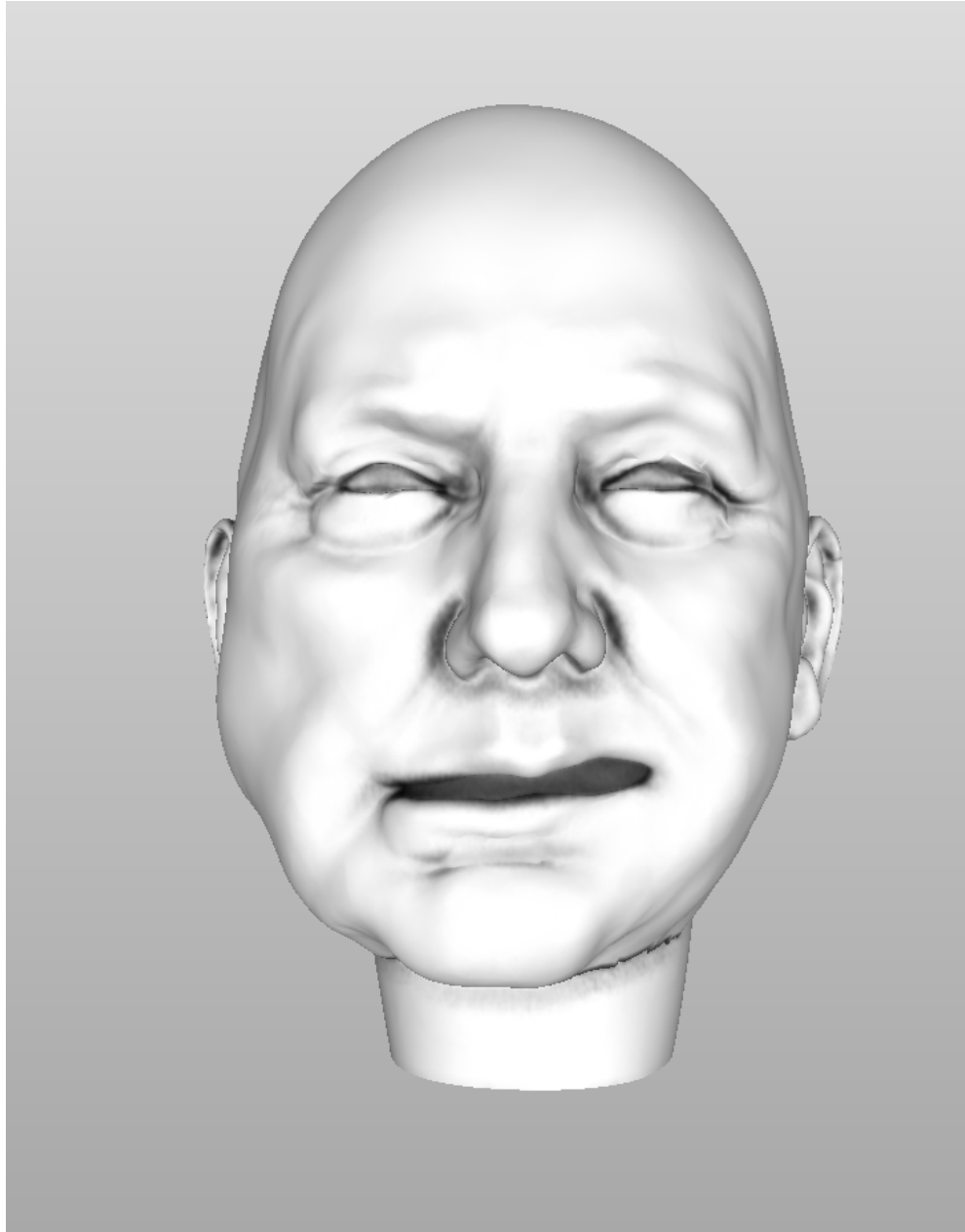
Figure 59. Pose 8B3: Humanoid Audio-Animatronic® - Reference Simulation

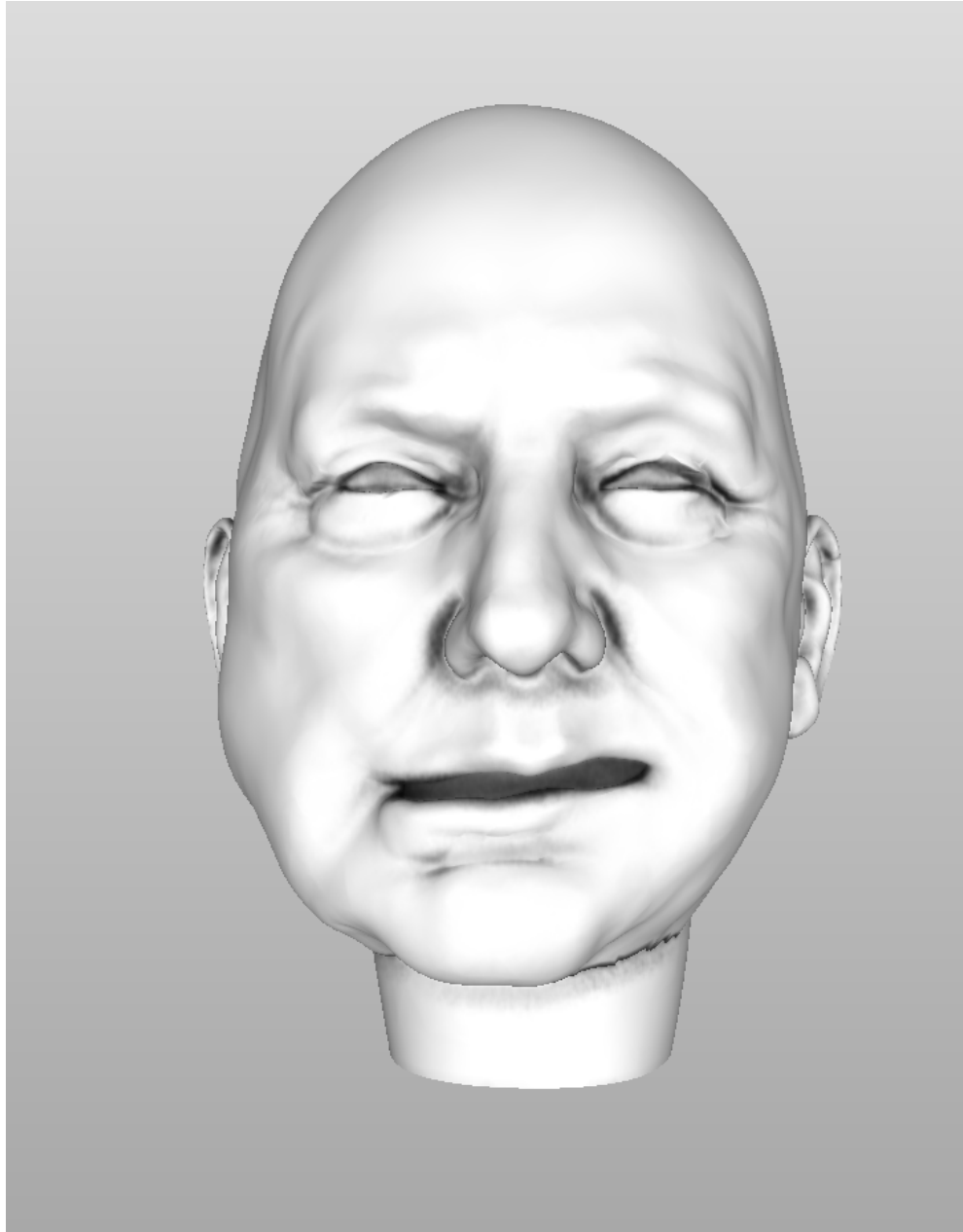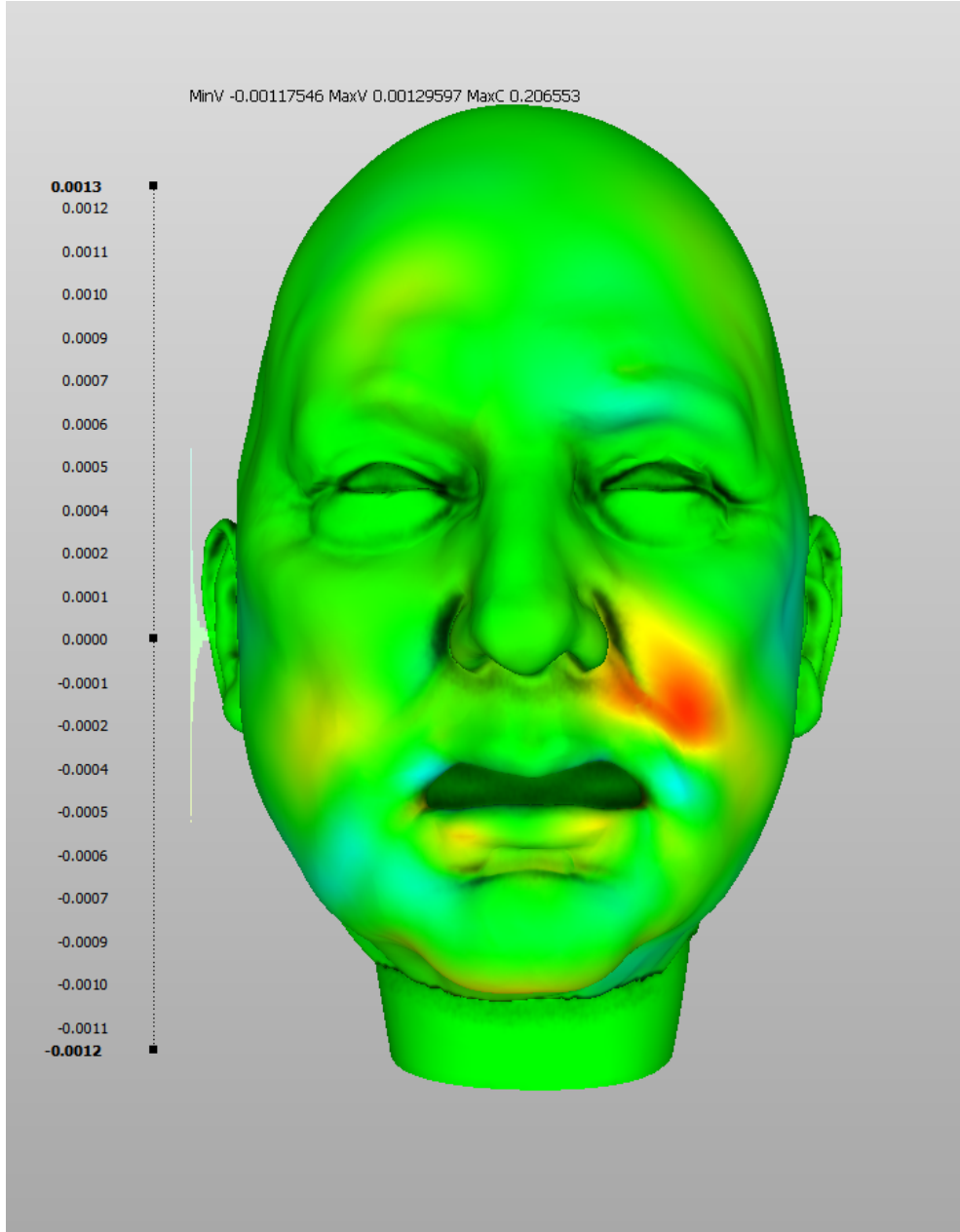**Figure 60**. Pose 8B3: Humanoid Audio-Animatronic® - Predicted

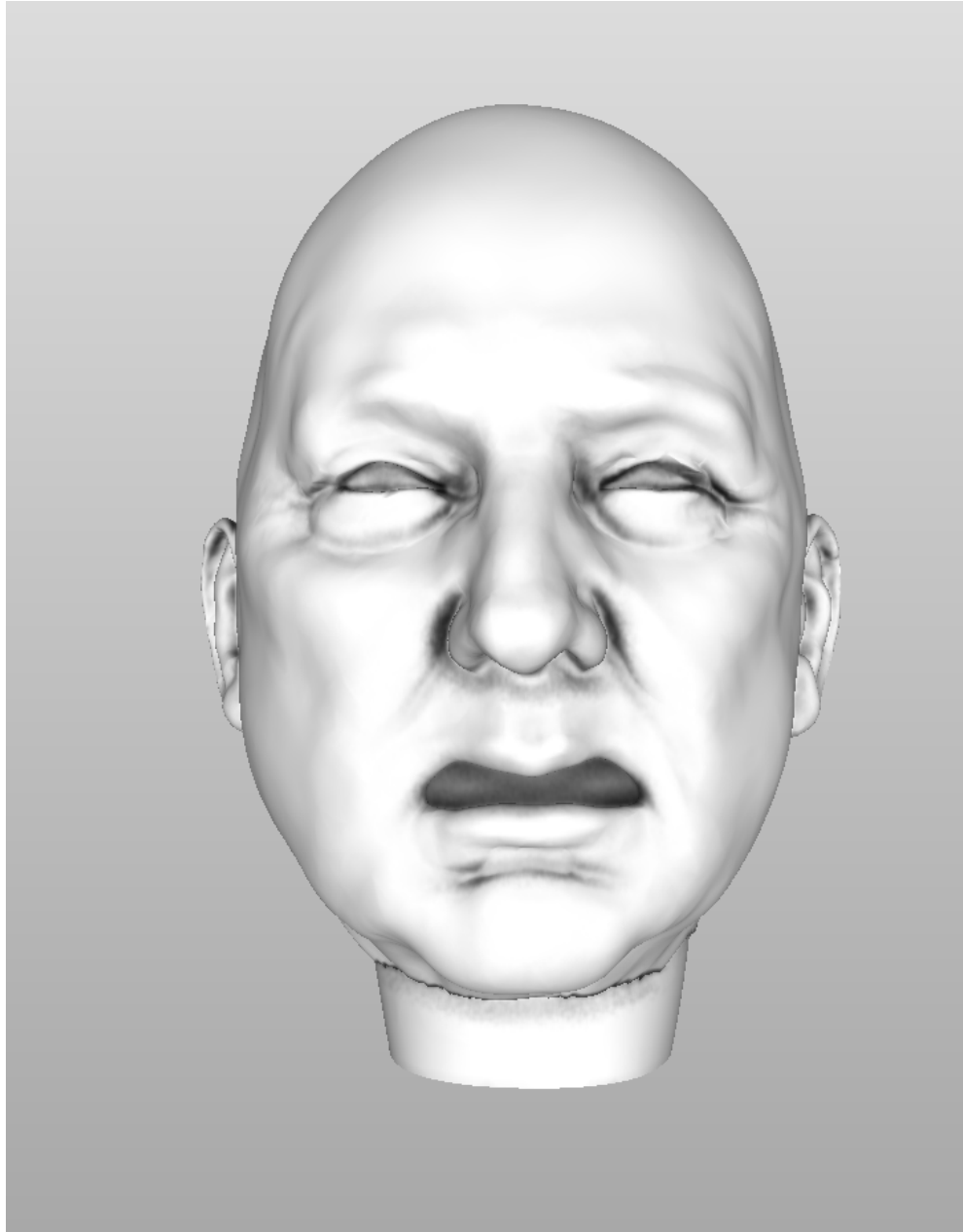**Figure 61**. Pose C57: Humanoid Audio-Animatronic® - Error Visualization

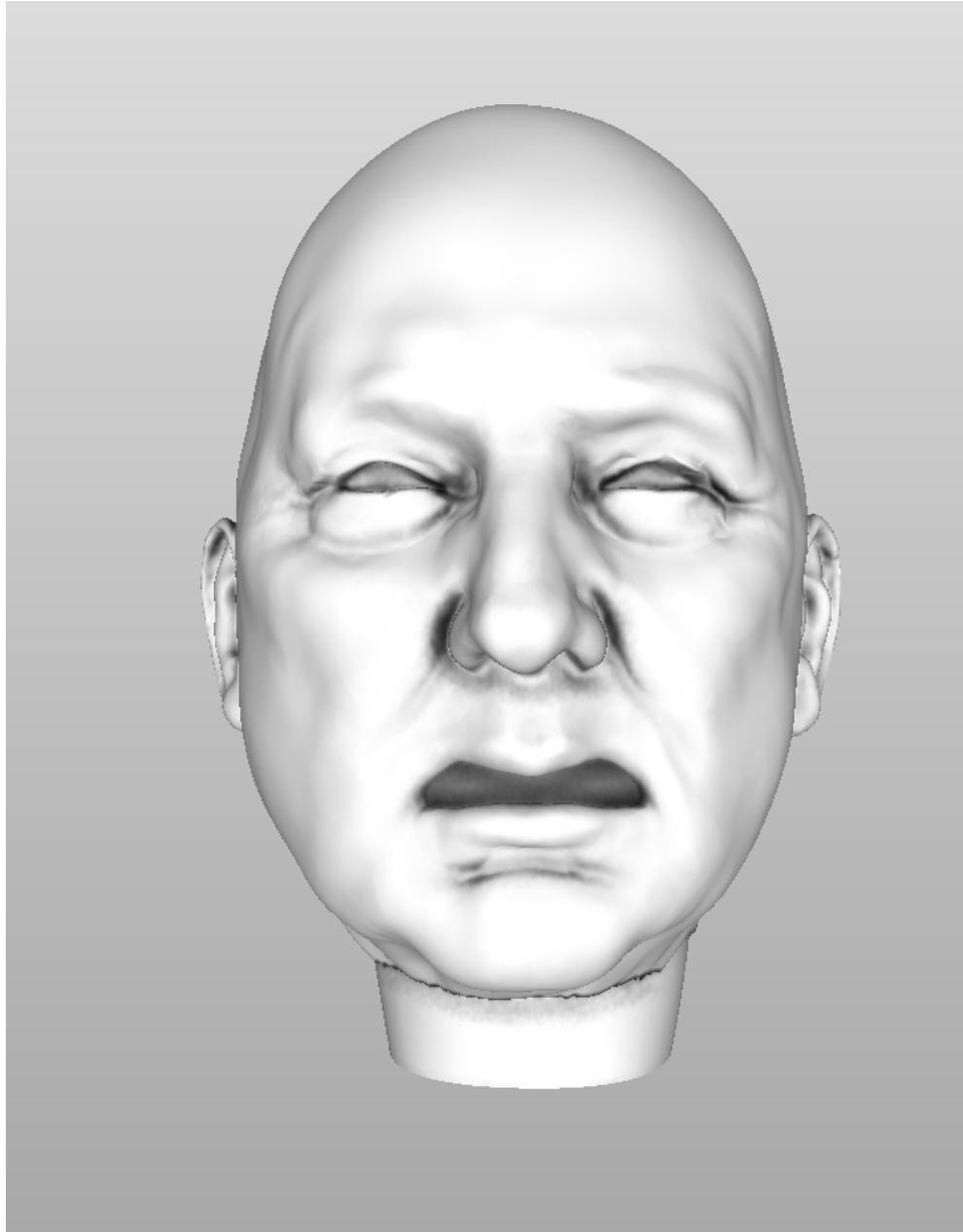**Figure 62**. Pose C57: Humanoid Audio-Animatronic® - Reference Simulation

Figure 63. Pose C57: Humanoid Audio-Animatronic® - Predicted
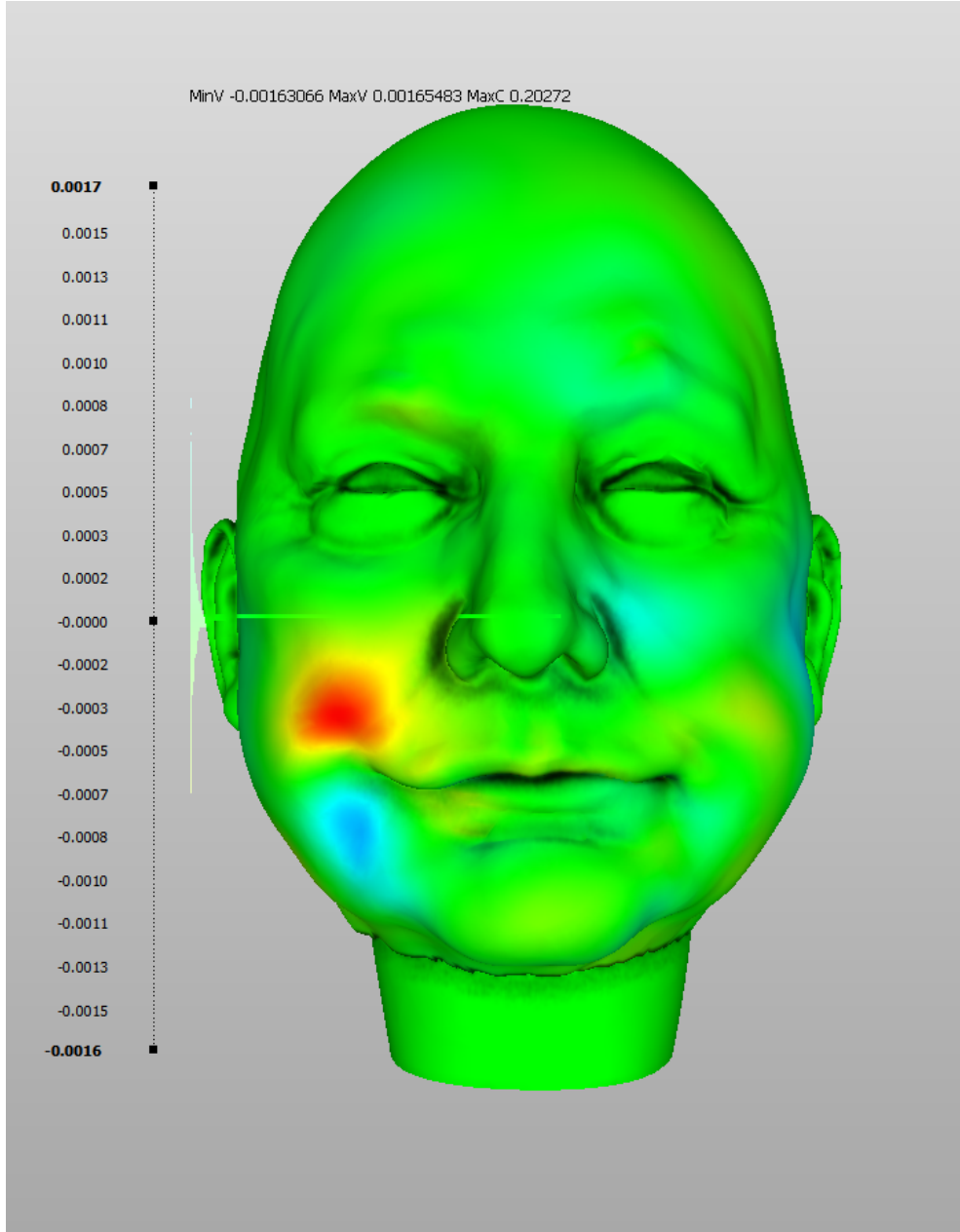
Figure 64. Pose F3B: Humanoid Audio-Animatronic® - Error Visualization
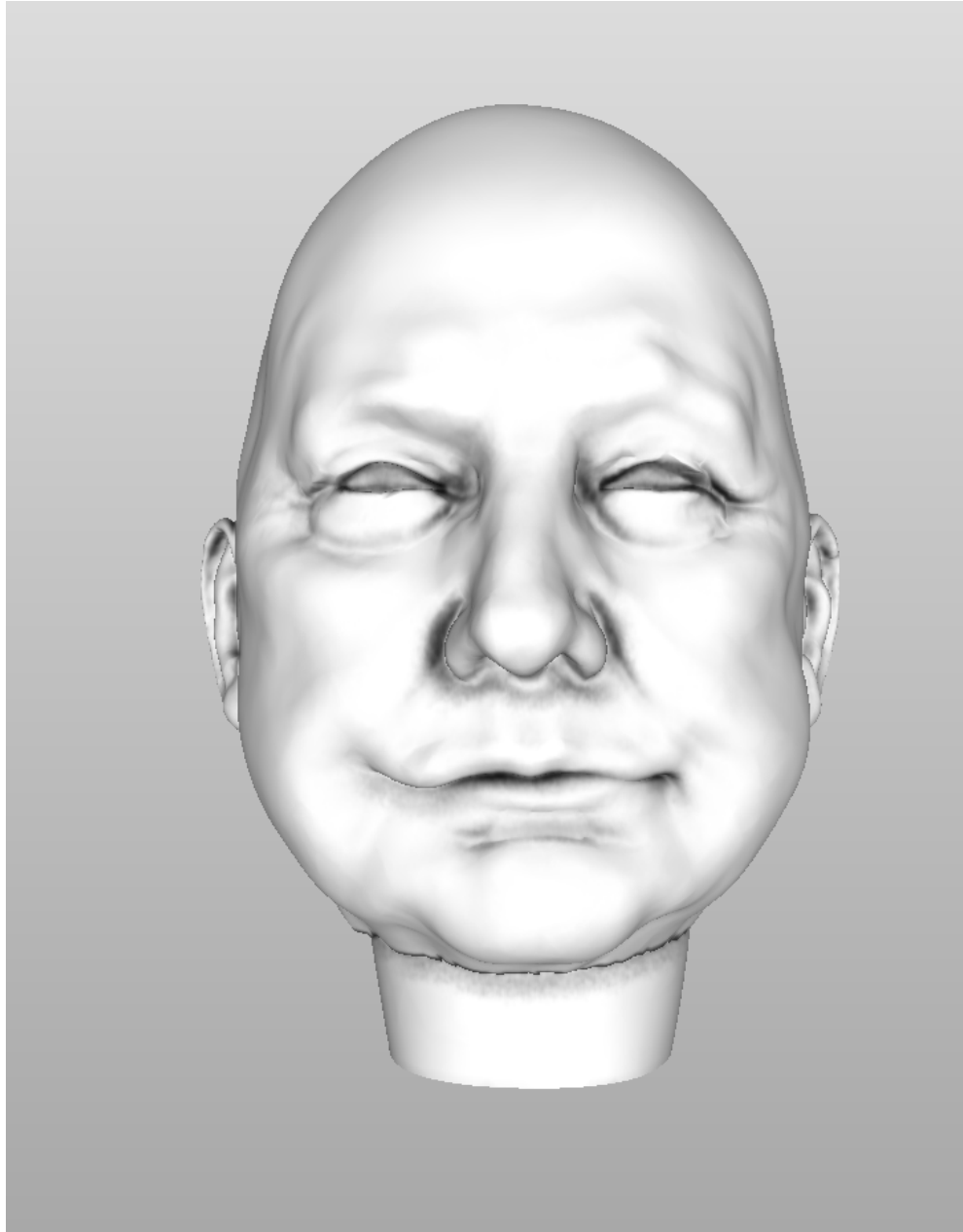
Figure 65. Pose F3B: Humanoid Audio-Animatronic® - Reference Simulation
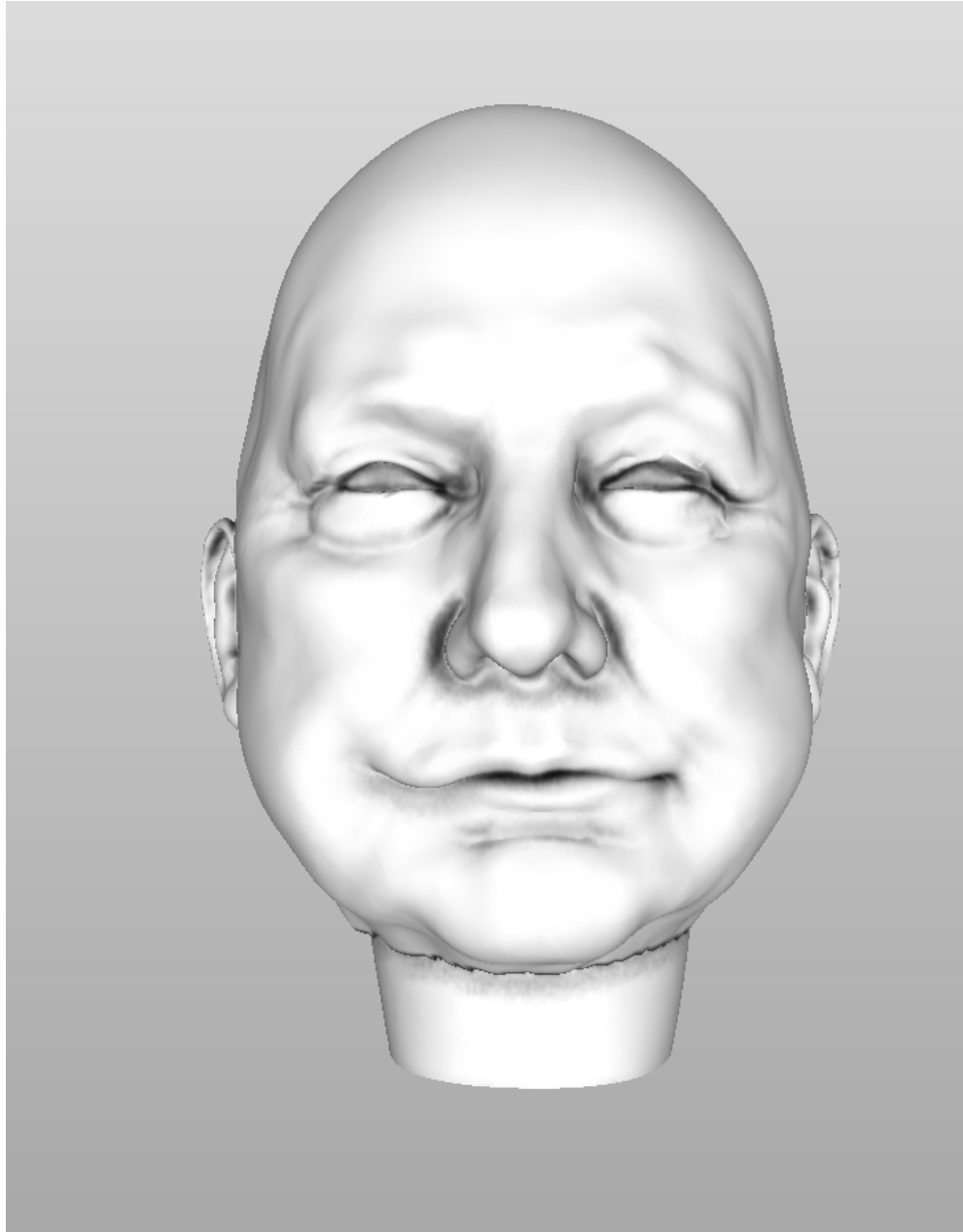
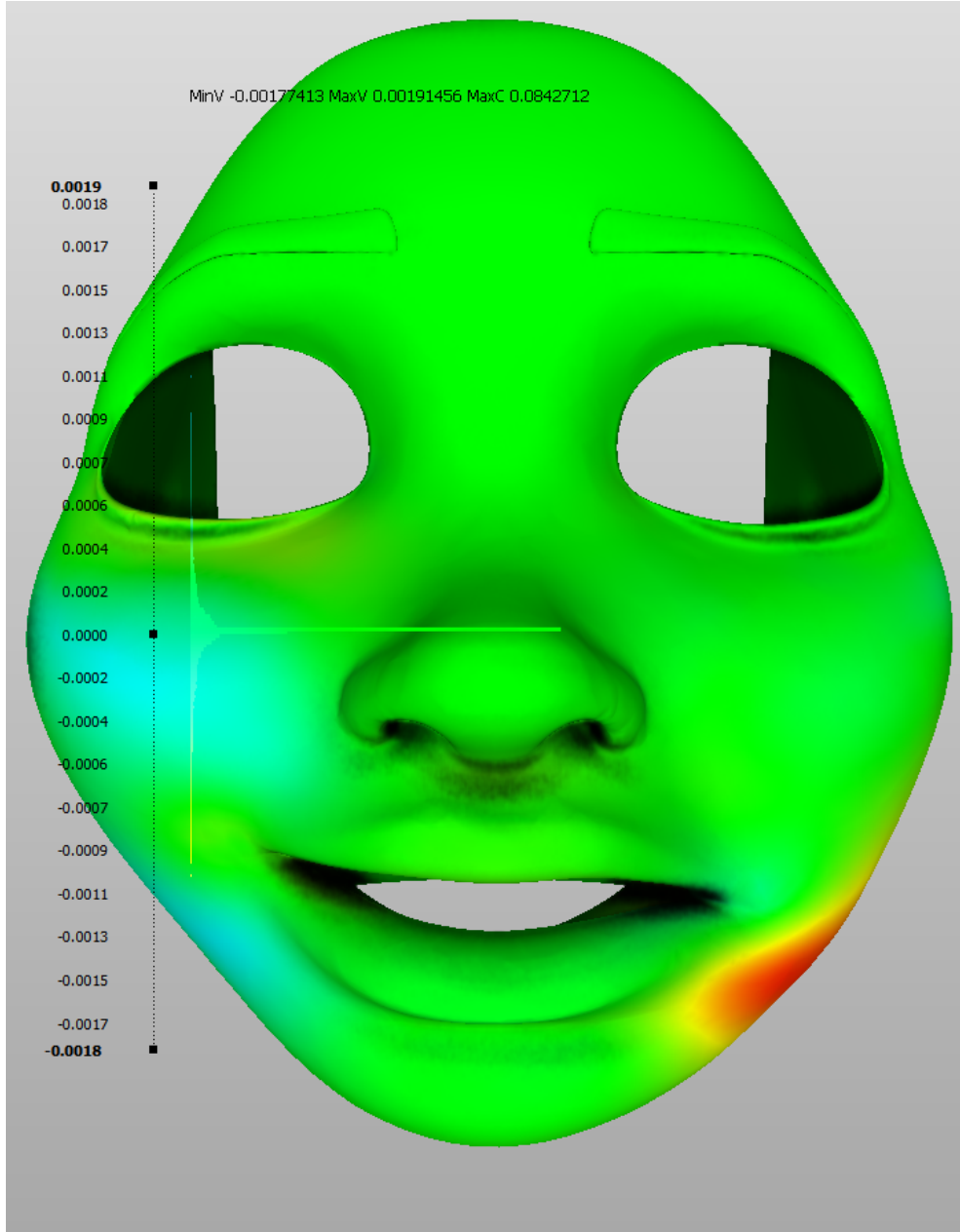**Figure 66**. Pose F3B: Humanoid Audio-Animatronic® - Predicted

Figure 67. Pose 0EB: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.00194008398 — 0.0001106585225
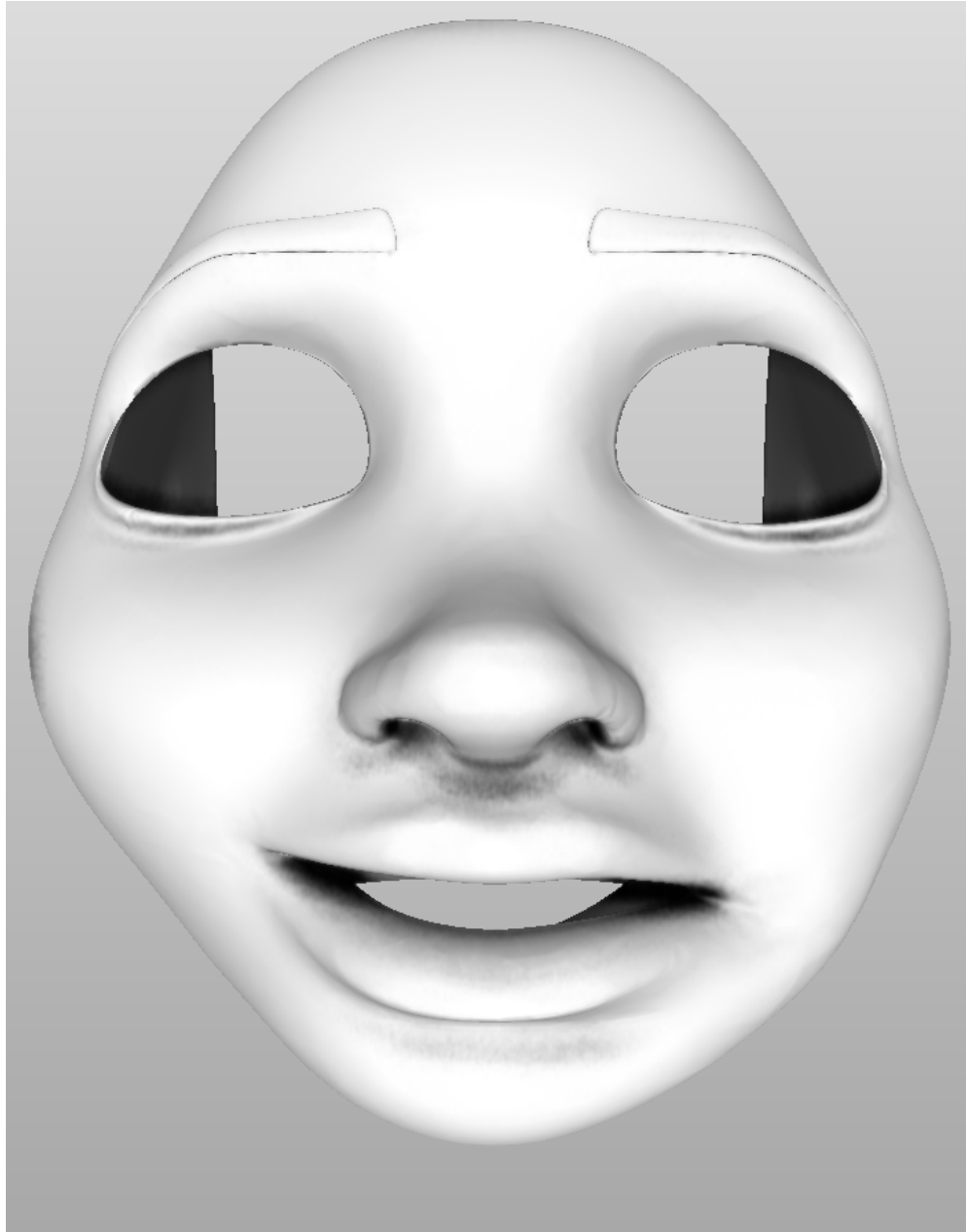
Figure 68. Pose 0EB: Stylized Audio-Animatronic® - Reference Simulation
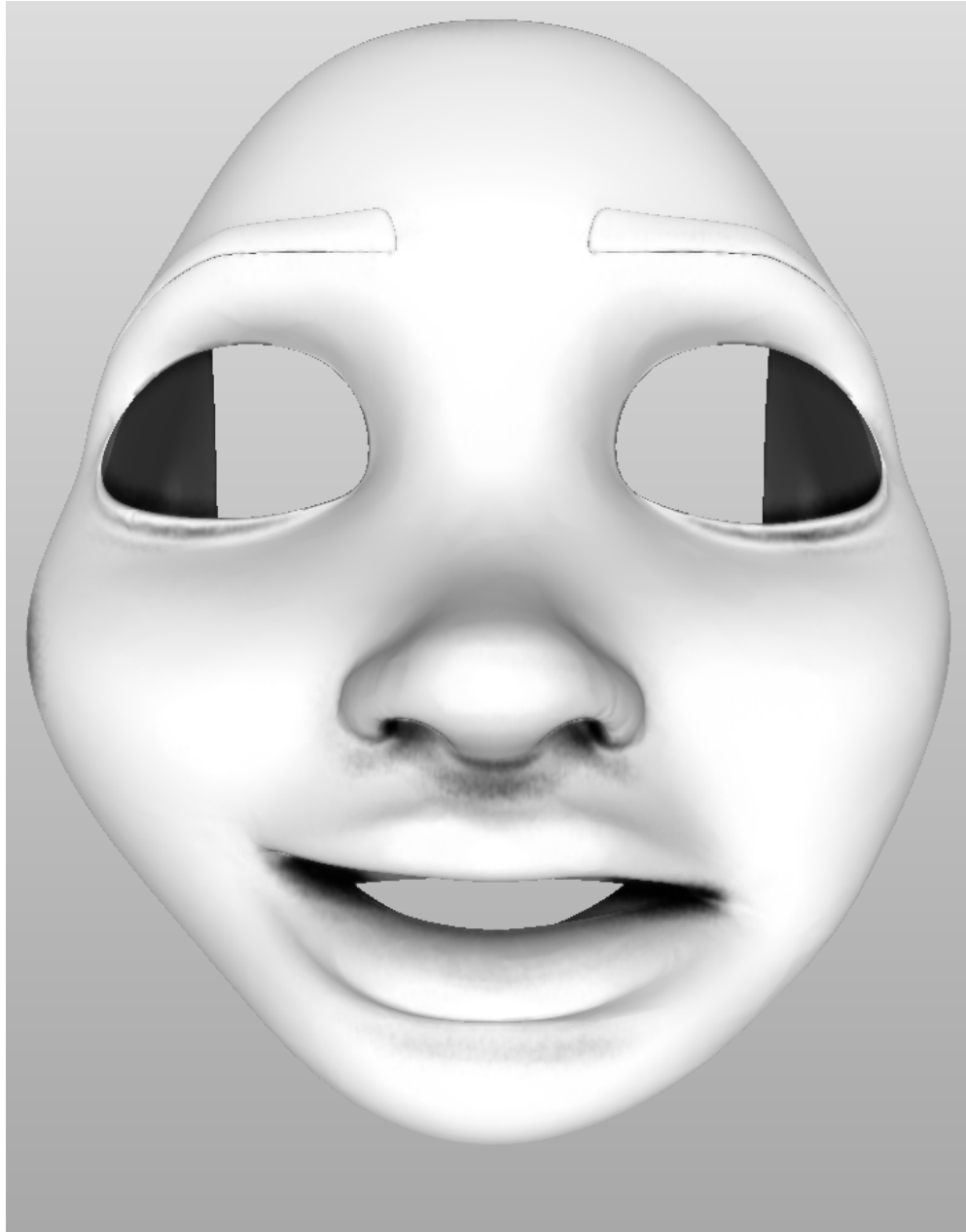
Figure 69. Pose 0EB: Stylized Audio-Animatronic® - Predicted

Figure 70. Pose 01CPose 01C: Stylized Audio-Animatronic® - Error Visualization
Max Vertex Error — Average Vertex Error in meters 0.000886952541 — 8.51E-05

Figure 71. : Stylized Audio-Animatronic® - Reference Simulation

Figure 72. Pose 01C: Stylized Audio-Animatronic® - Predicted

Figure 73. Pose 04A: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.0006435361528 — 7.15E-05

Figure 74. Pose 04A: Stylized Audio-Animatronic® - Reference Simulation

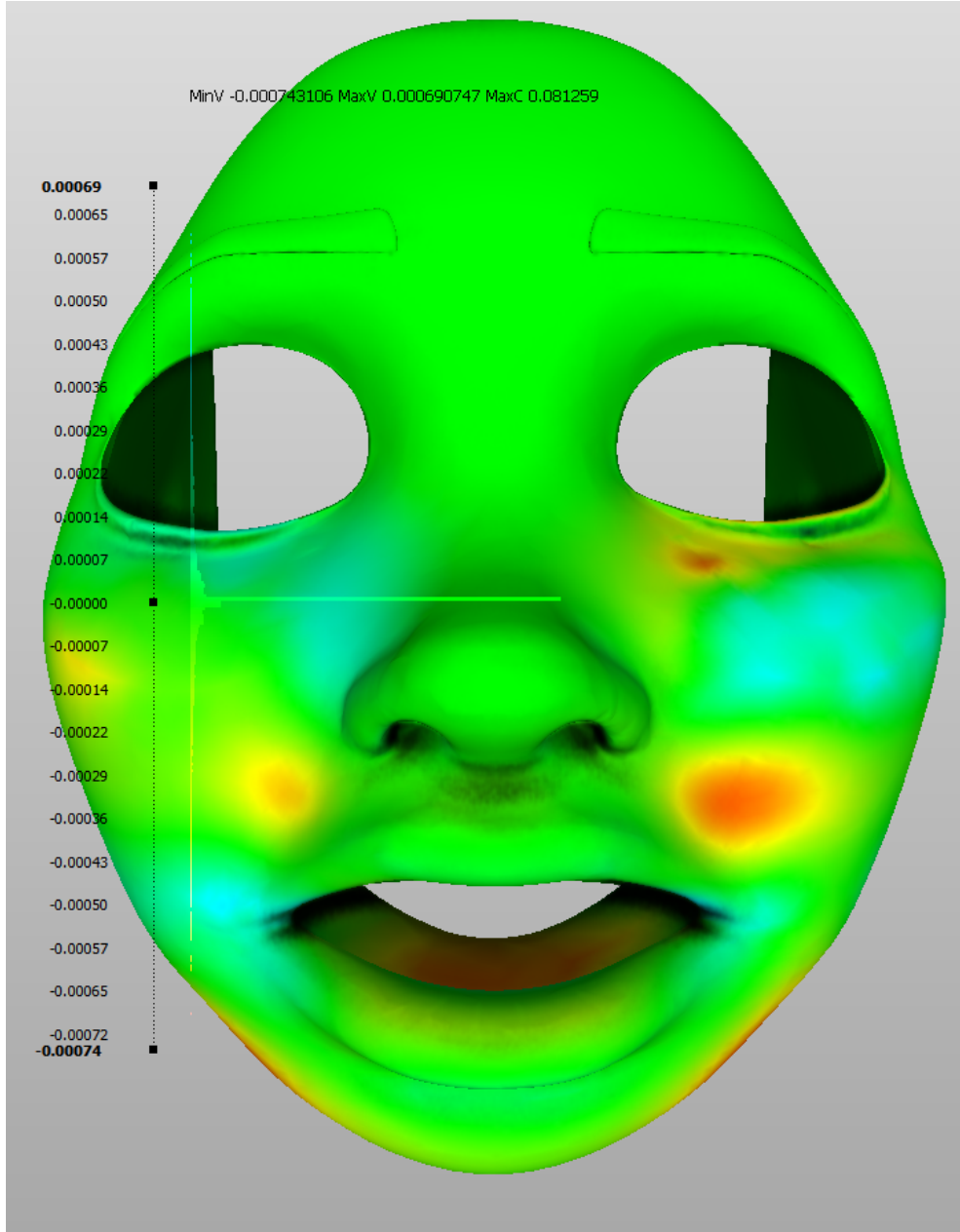**Figure 75**. Pose 04A: Stylized Audio-Animatronic® - Predicted

Figure 76. Pose 30F: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.001480181425 — 9.36E-05
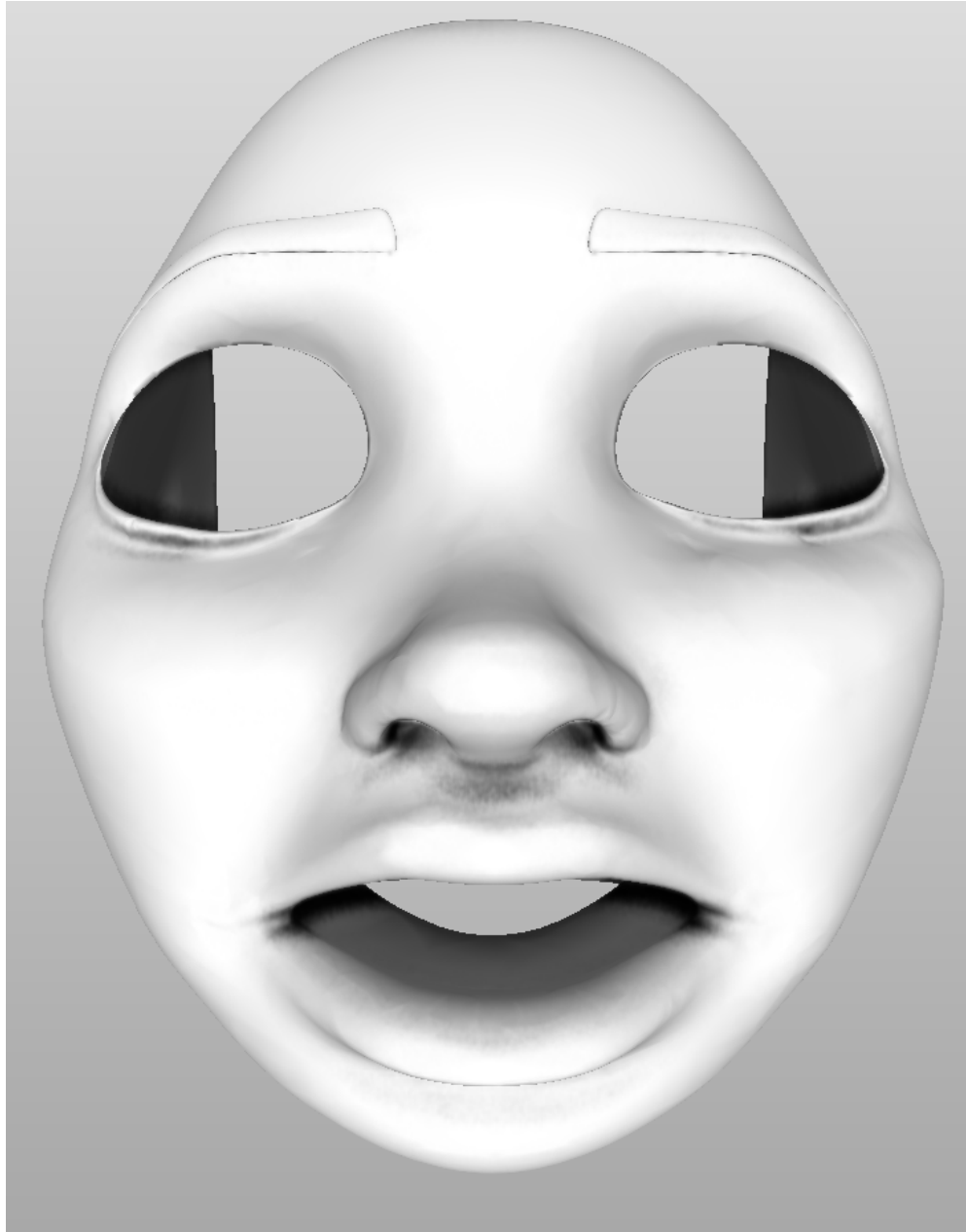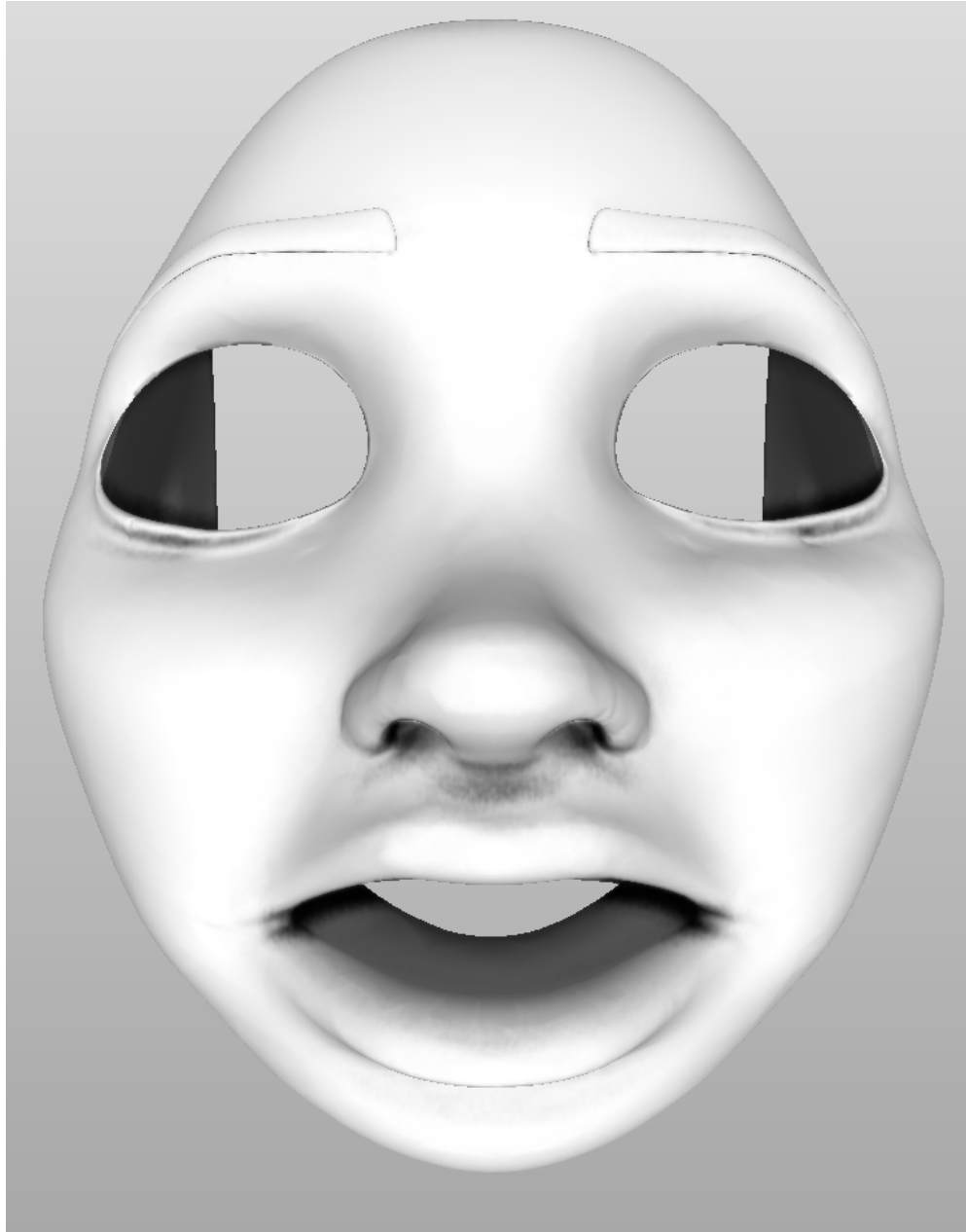
Figure 77. Pose 30F: Stylized Audio-Animatronic® - Reference Simulation
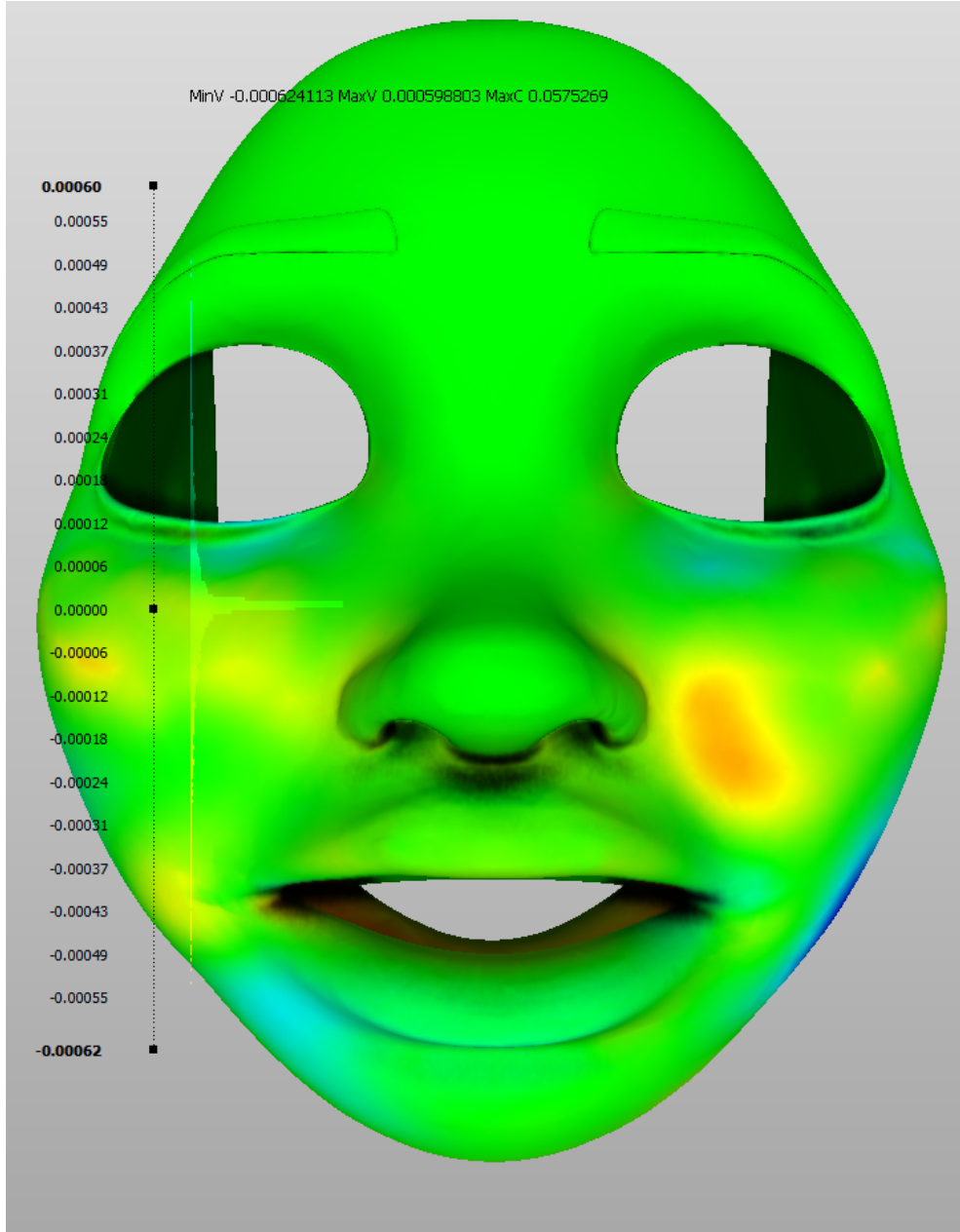
Figure 78. Pose 30F: Stylized Audio-Animatronic® - Predicted

Figure 79. Pose 52D: Stylized Audio-Animatronic® - Error Visualization
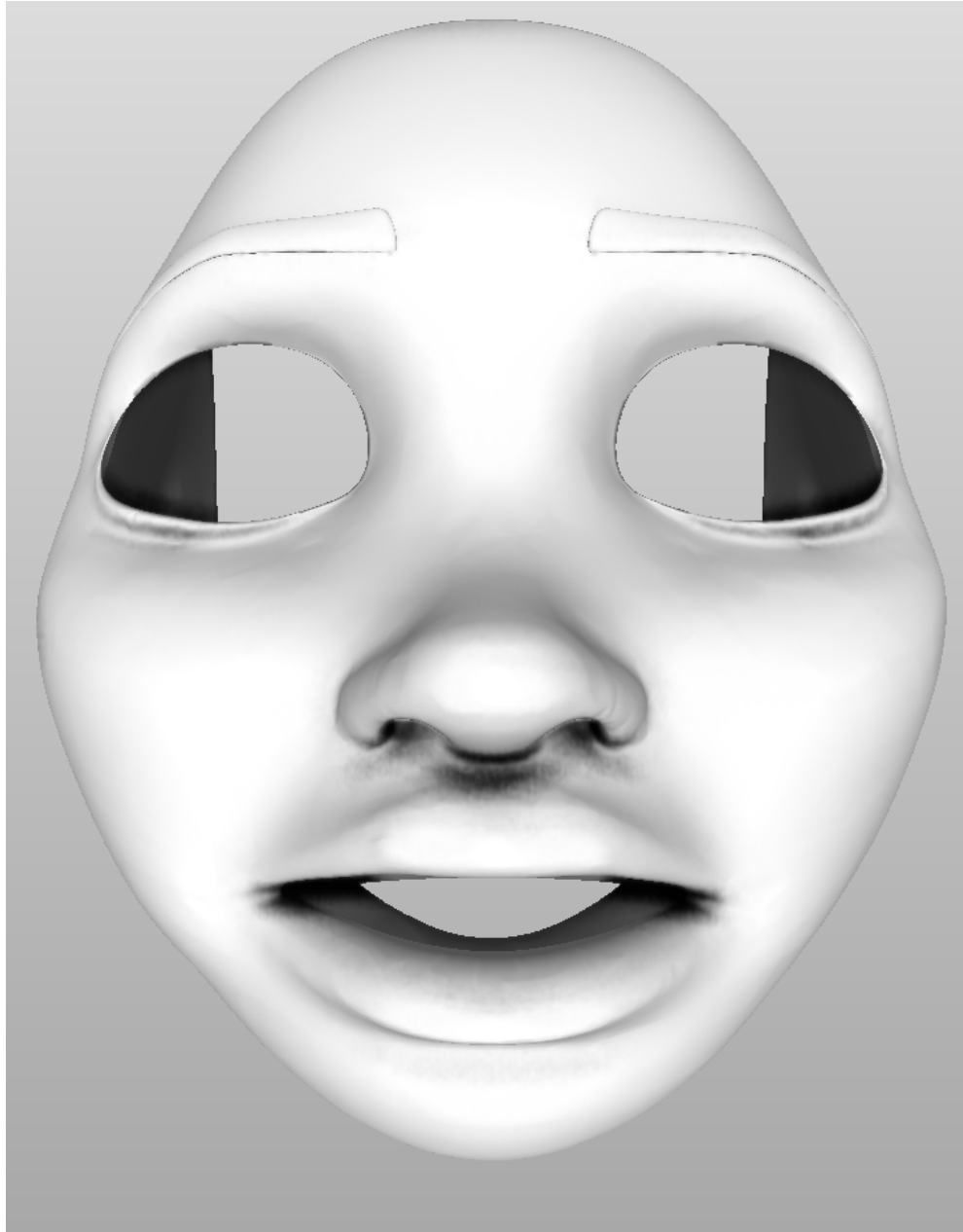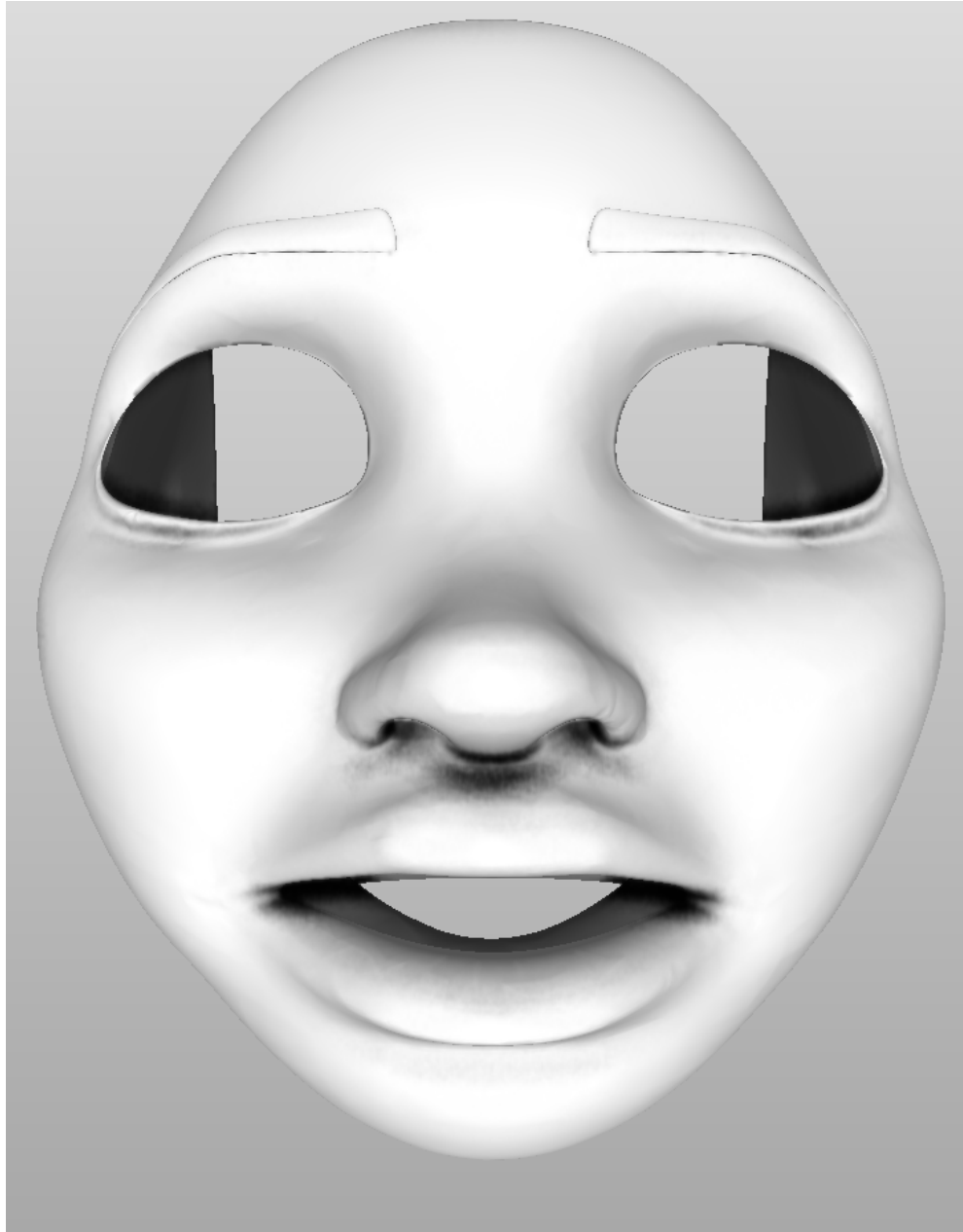
Max Vertex Error — Average Vertex Error in meters 0.002557438785 — 0.0001350941111

Figure 80. Pose 52D: Stylized Audio-Animatronic® - Reference Simulation

Figure 81. Pose 52D: Stylized Audio-Animatronic® - Predicted
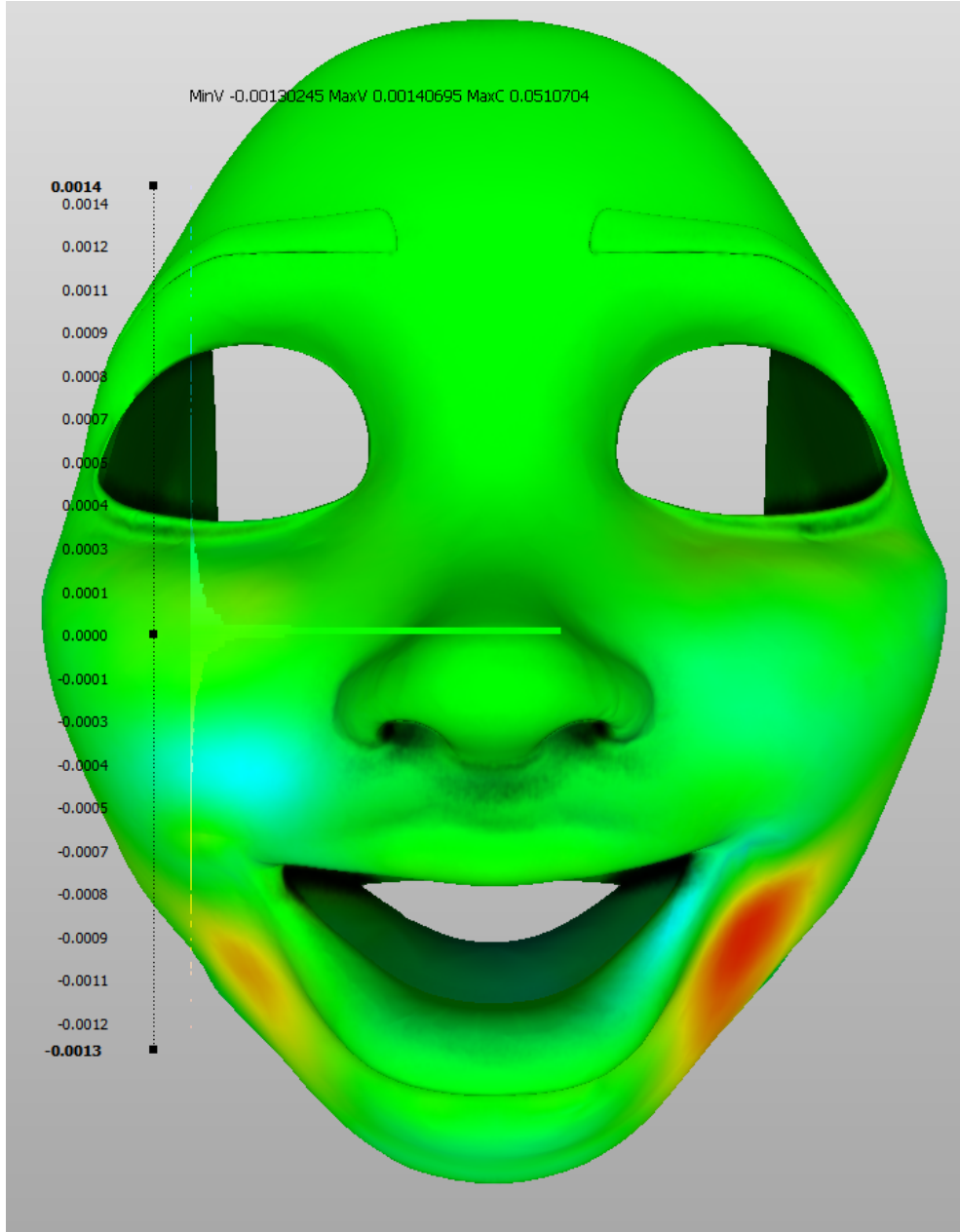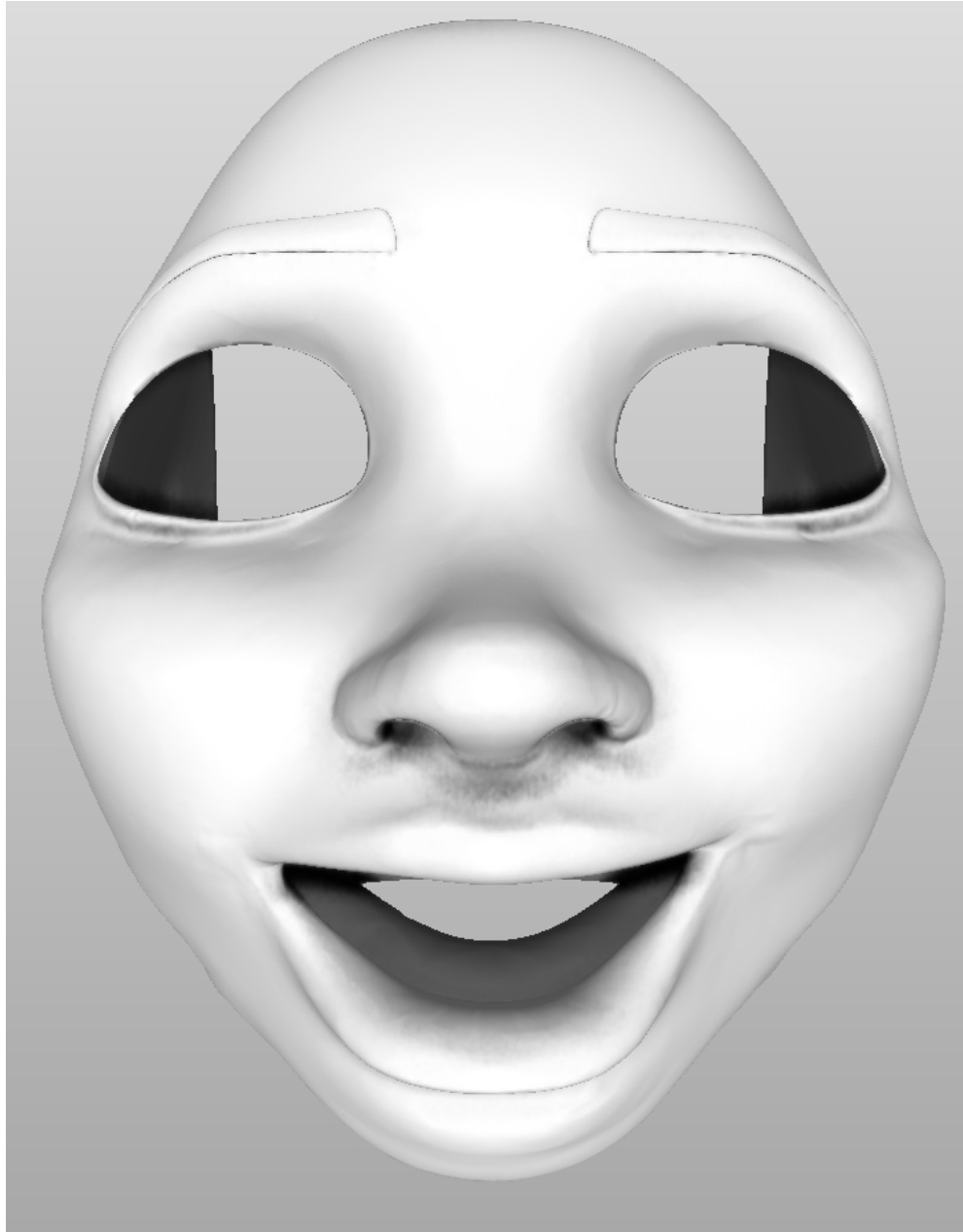
Figure 82. Pose 286: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.001167847392 — 9.59E-05

Figure 83. Pose 286: Stylized Audio-Animatronic® - Reference Simulation

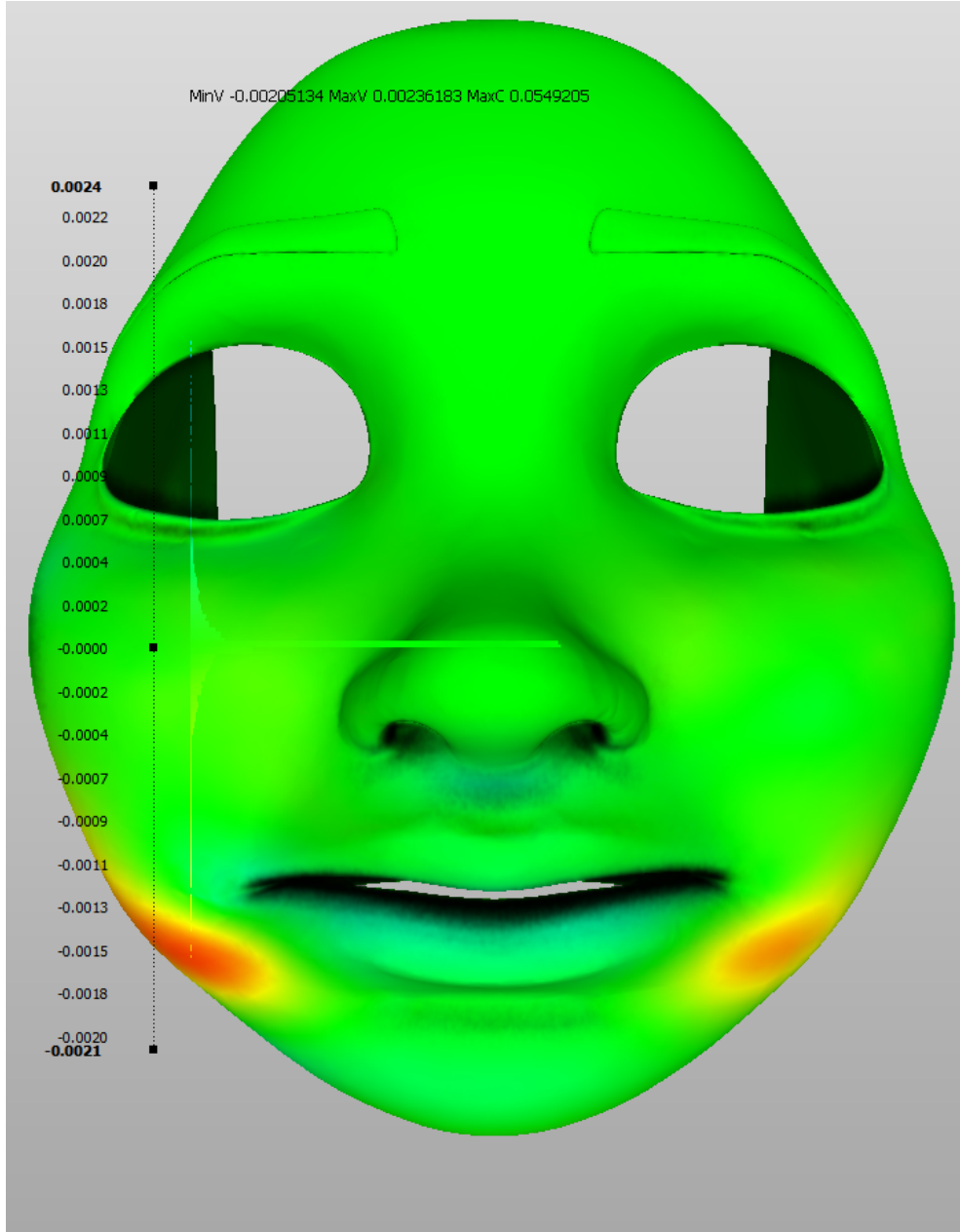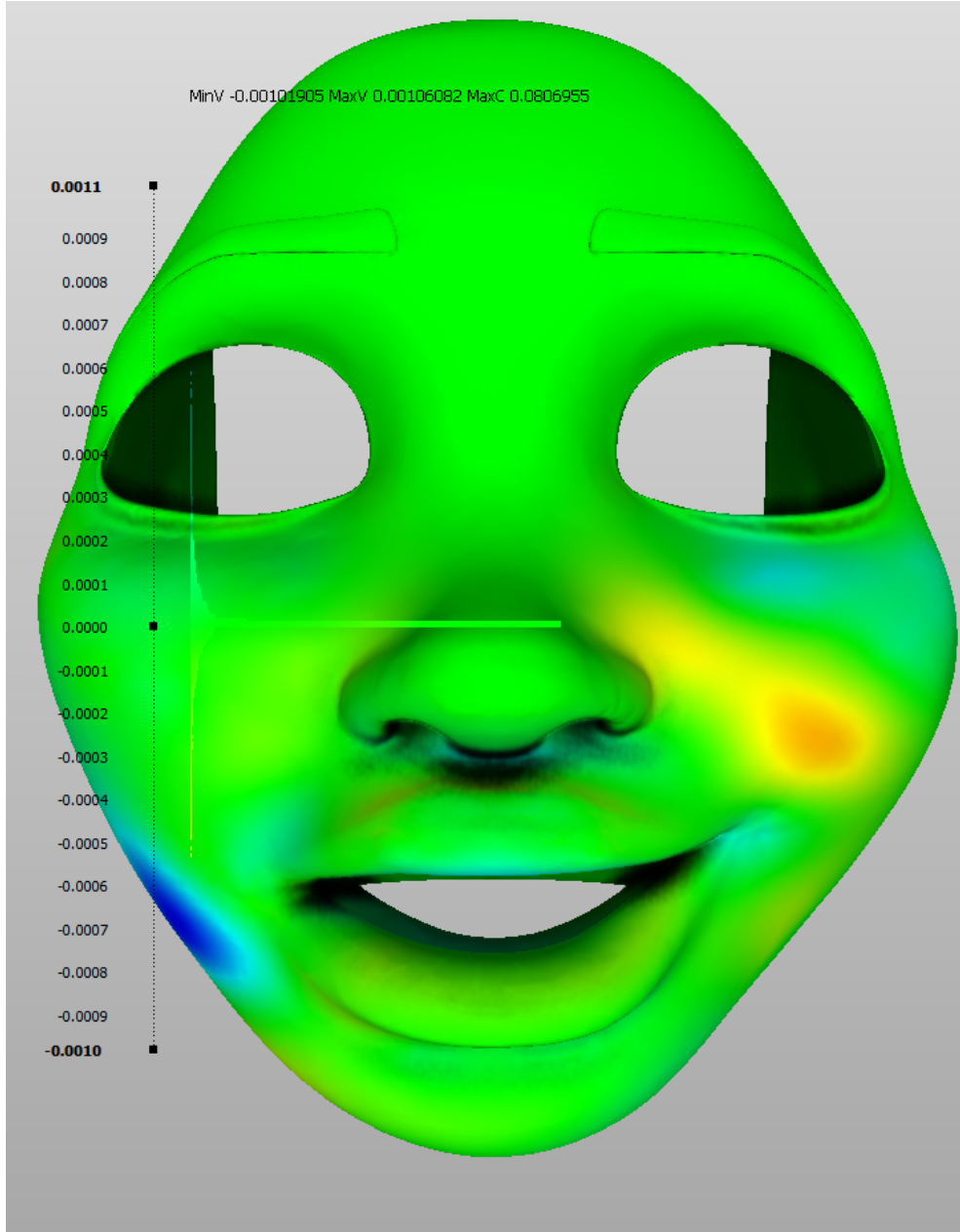**Figure 84**. Pose 286: Stylized Audio-Animatronic® - Predicted
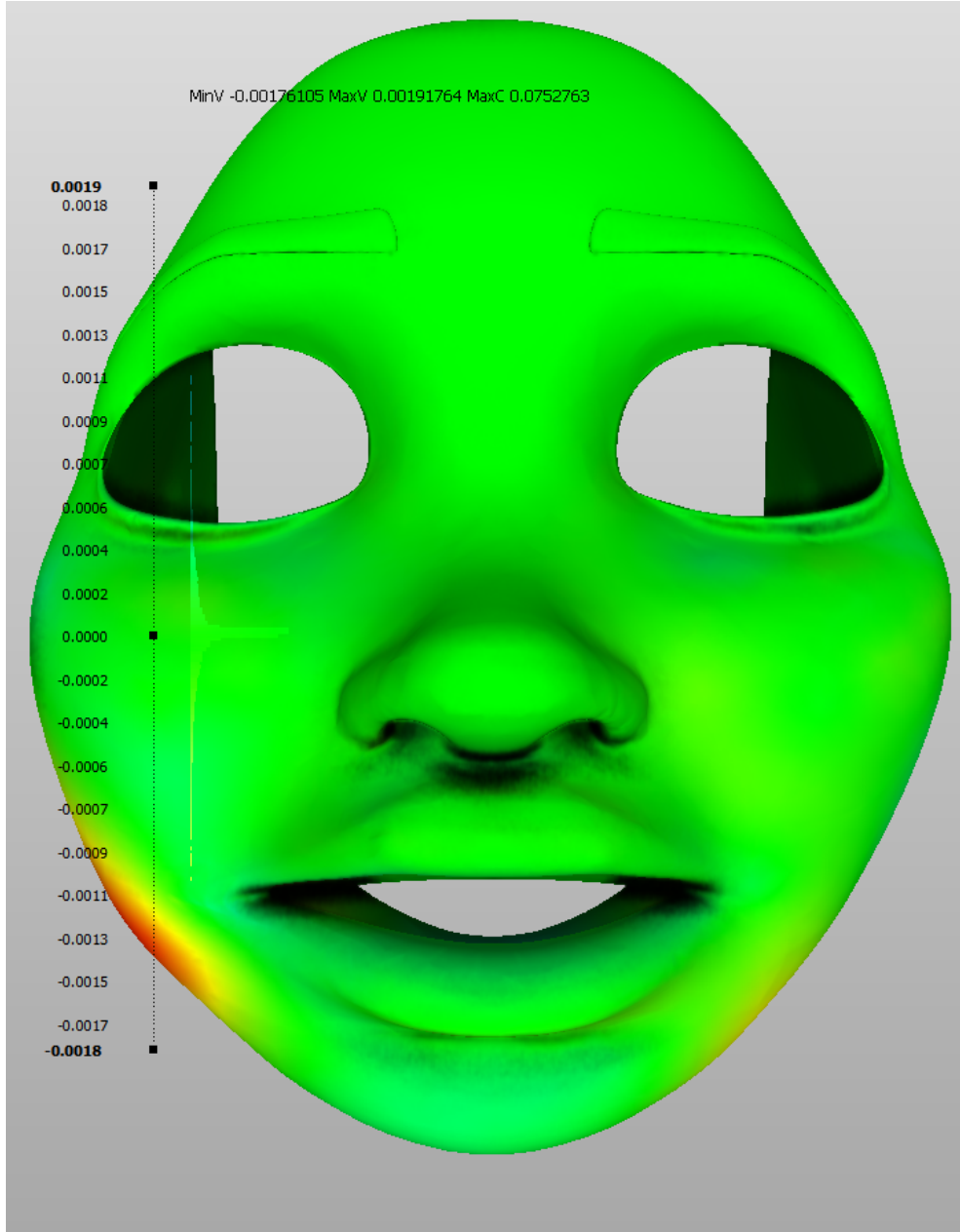
Figure 85. Pose 434: Stylized Audio-Animatronic® - Error Visualization

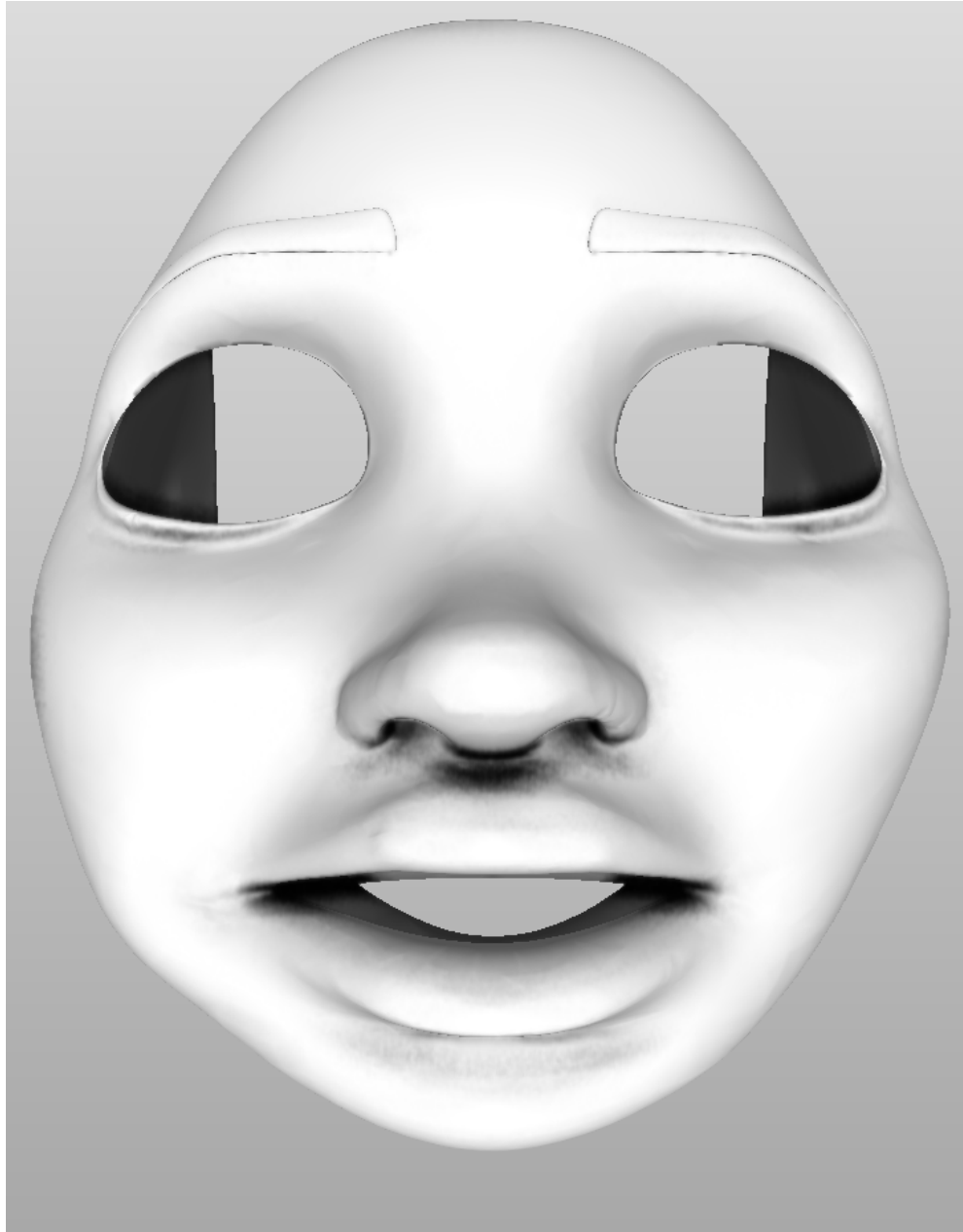Max Vertex Error — Average Vertex Error in meters 0.002143481257 — 0.0001120134238

Figure 86. Pose 434: Stylized Audio-Animatronic® - Reference Simulation

Figure 87. Pose 434: Stylized Audio-Animatronic® - Predicted

Figure 88. Pose AB6: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.000886952541 — 8.51E-05

Figure 89. Pose AB6: Stylized Audio-Animatronic® - Reference Simulation

Figure 90. Pose AB6: Stylized Audio-Animatronic® - Predicted
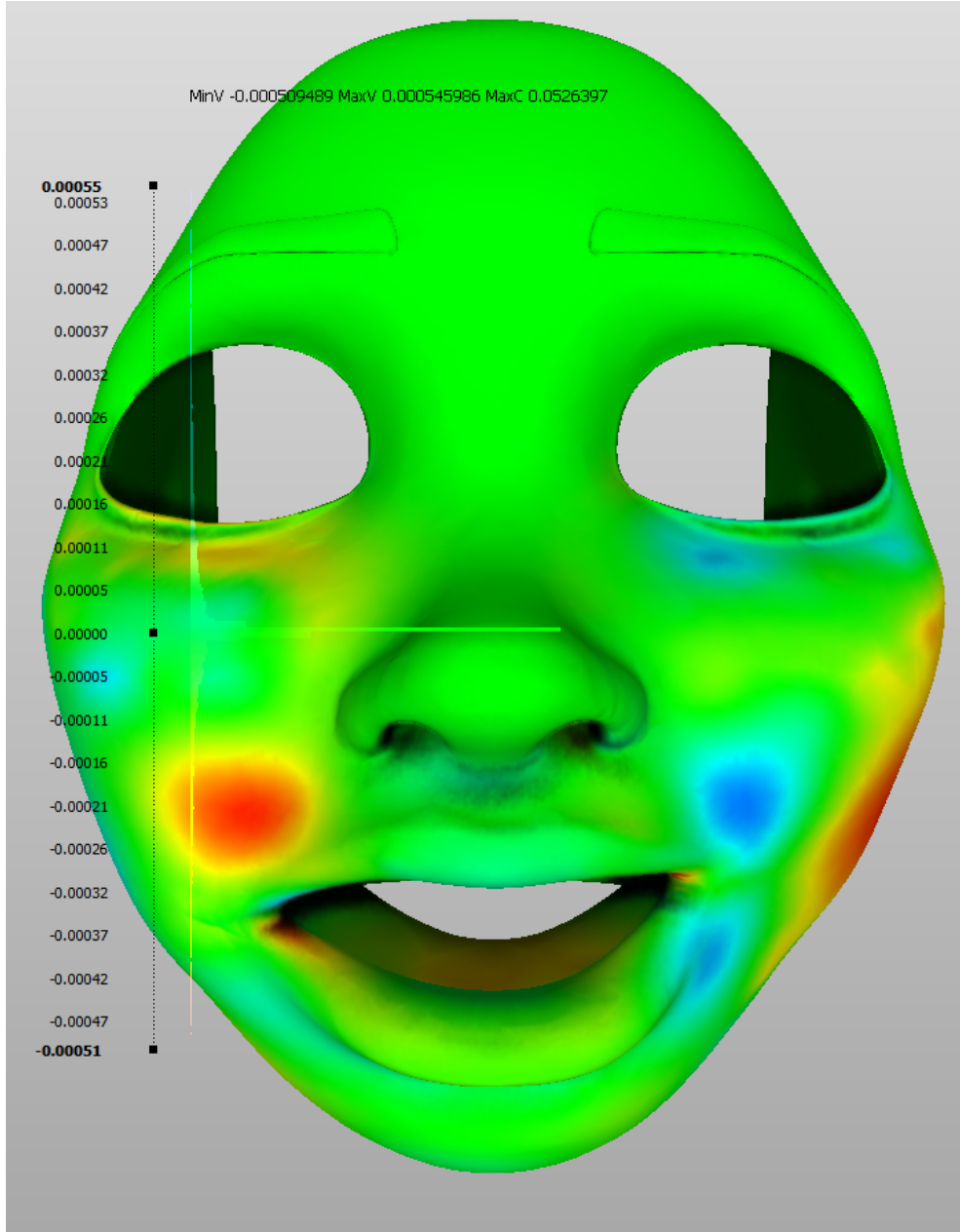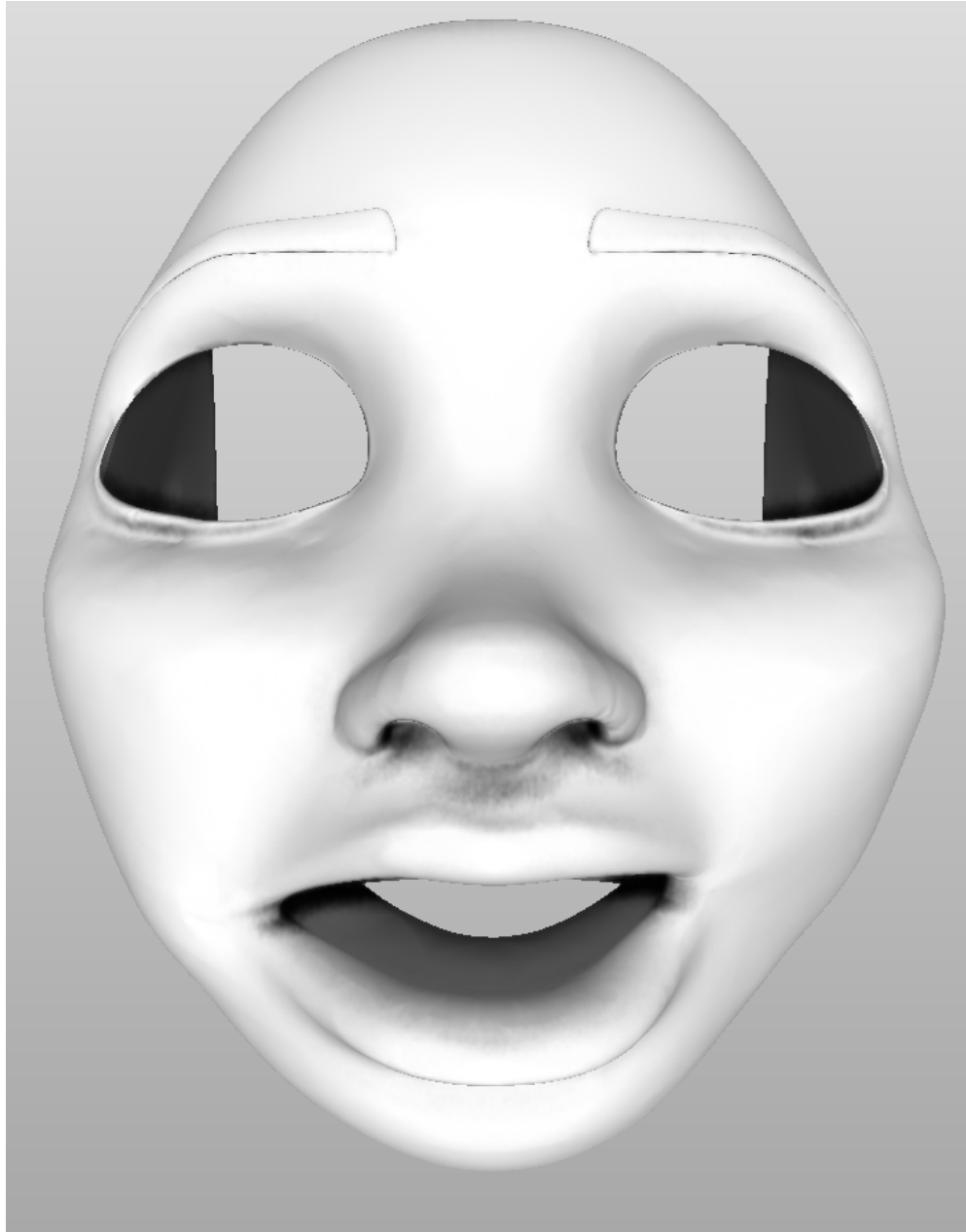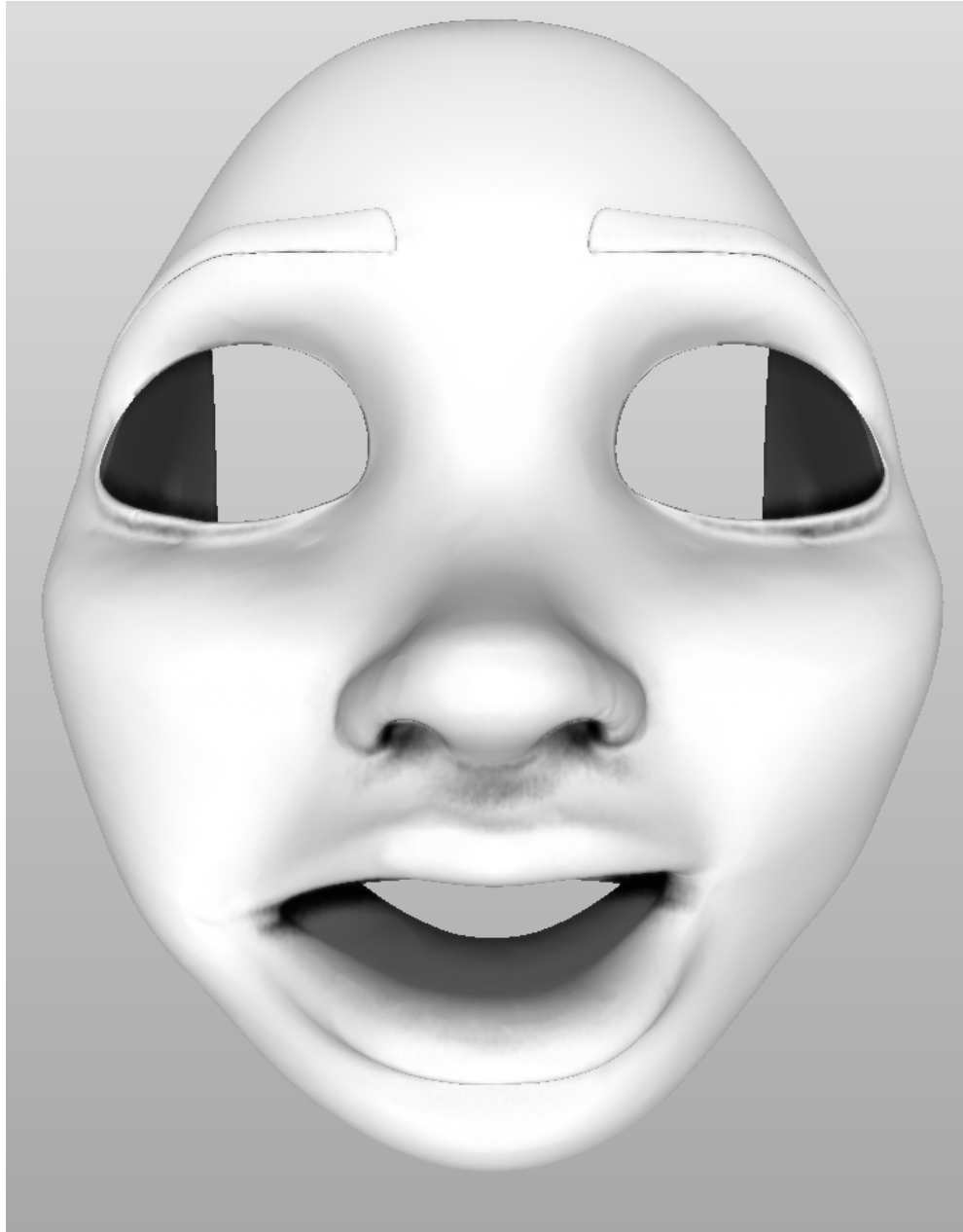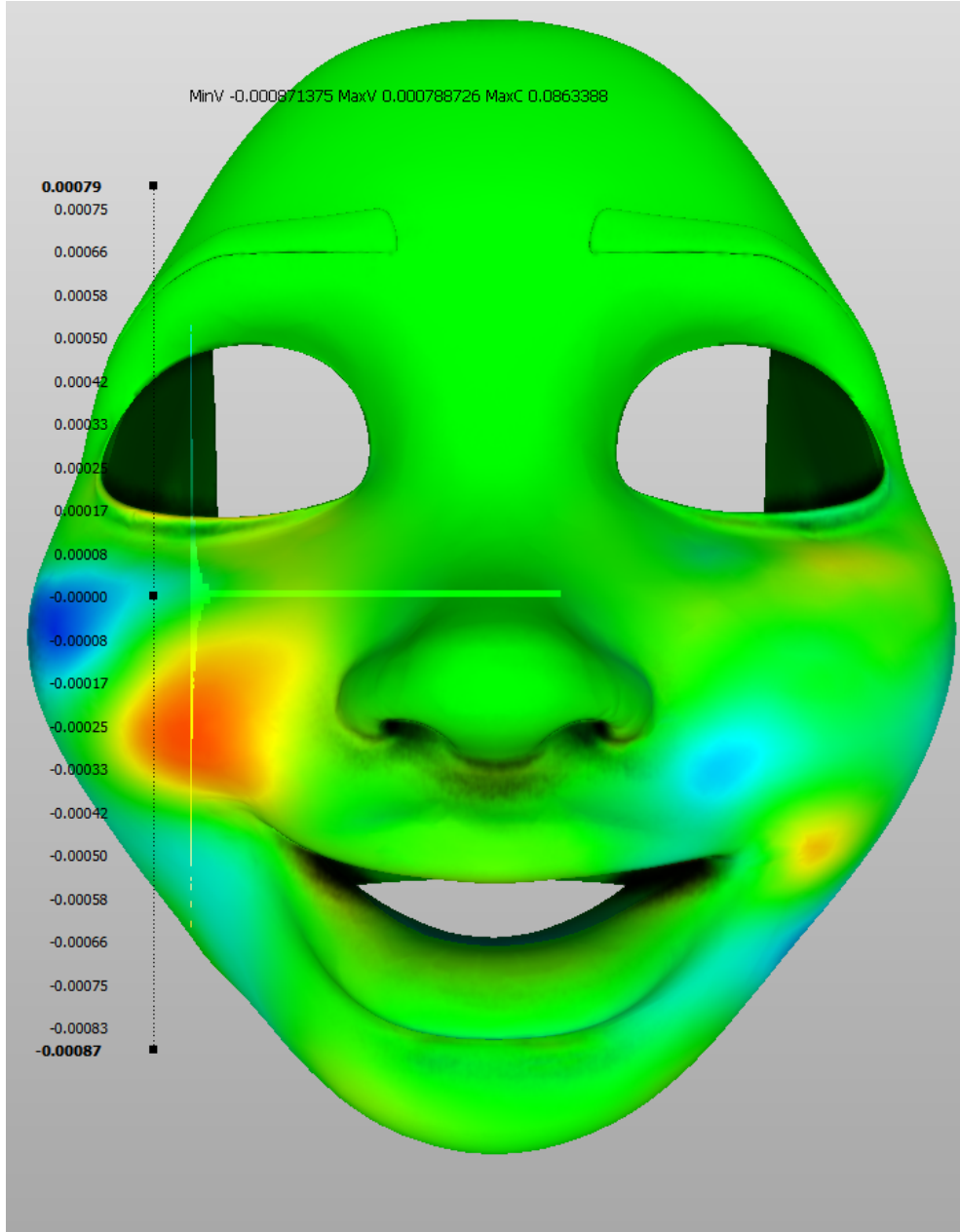
Figure 91. Pose C1C: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.000886952541 — 8.51E-05

Figure 92. Pose C1C: Stylized Audio-Animatronic® - Reference Simulation

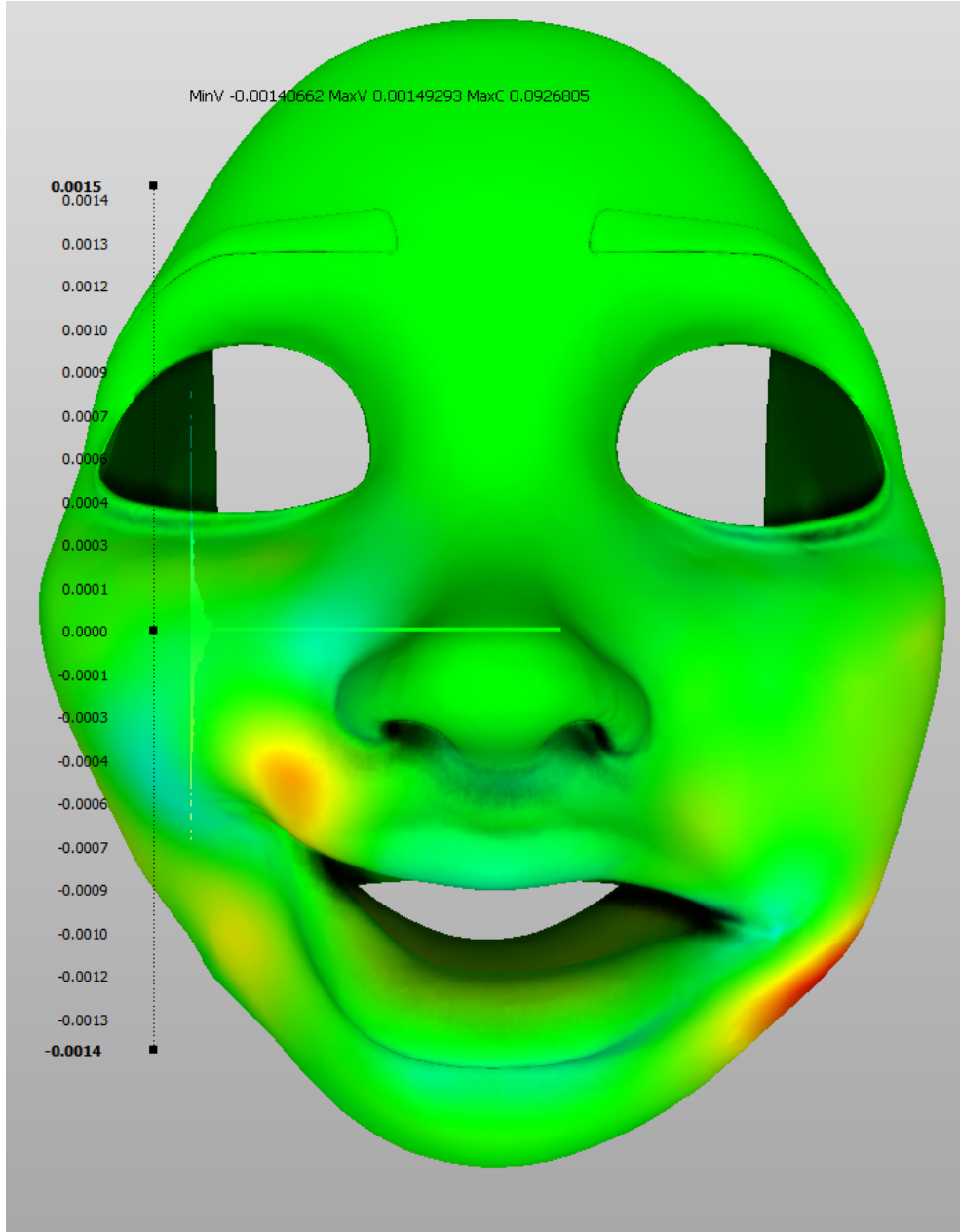**Figure 93**. Pose C1C: Stylized Audio-Animatronic® - Predicted

Figure 94. Pose C27: Stylized Audio-Animatronic® - Error Visualization

Max Vertex Error — Average Vertex Error in meters 0.001684347936 — 0.0001210300249

Figure 95. Pose C27: Stylized Audio-Animatronic® - Reference Simulation

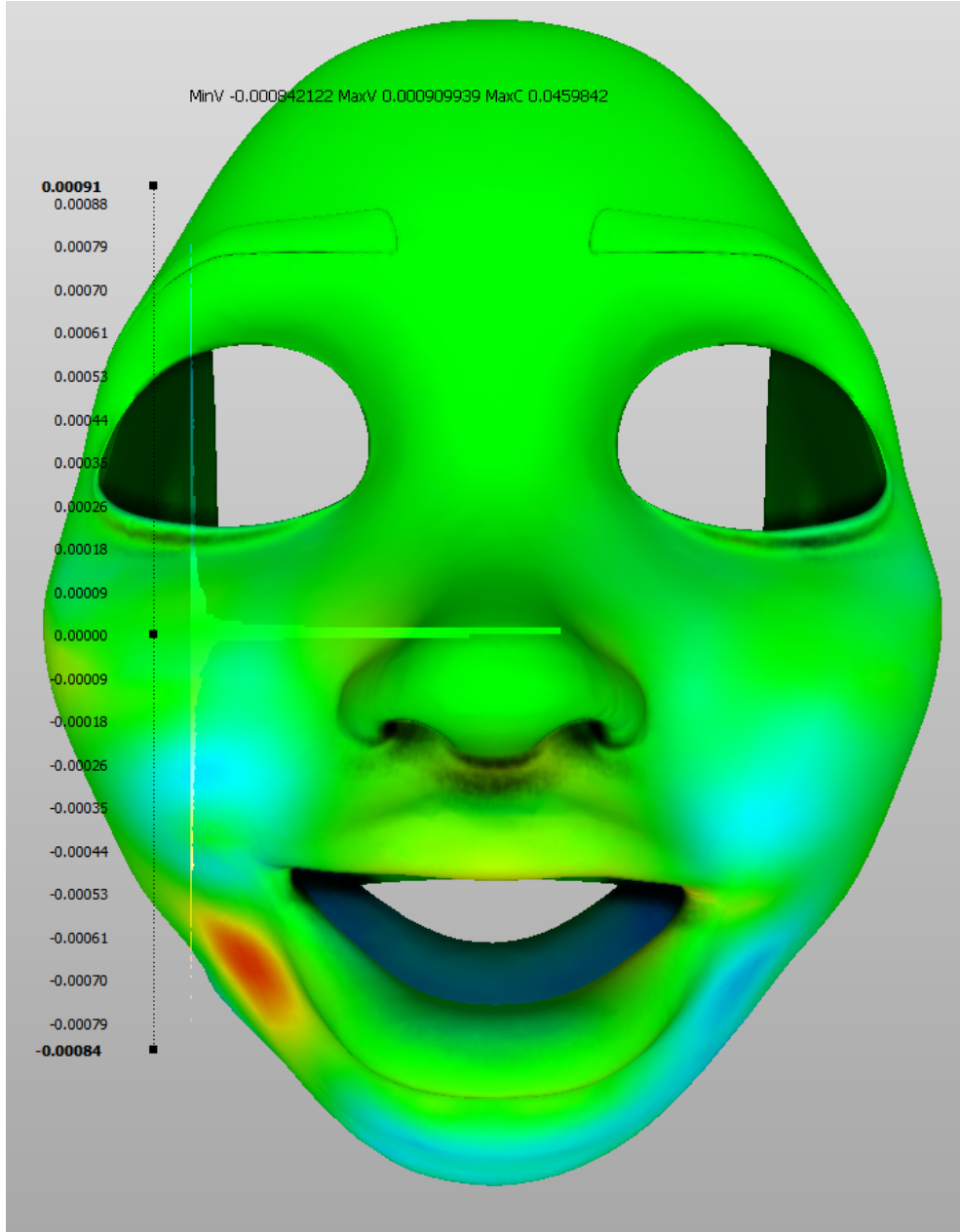**Figure 96**. Pose C27: Stylized Audio-Animatronic® - Predicted

Figure 97. Pose D19: Stylized Audio-Animatronic® - Error Visualization

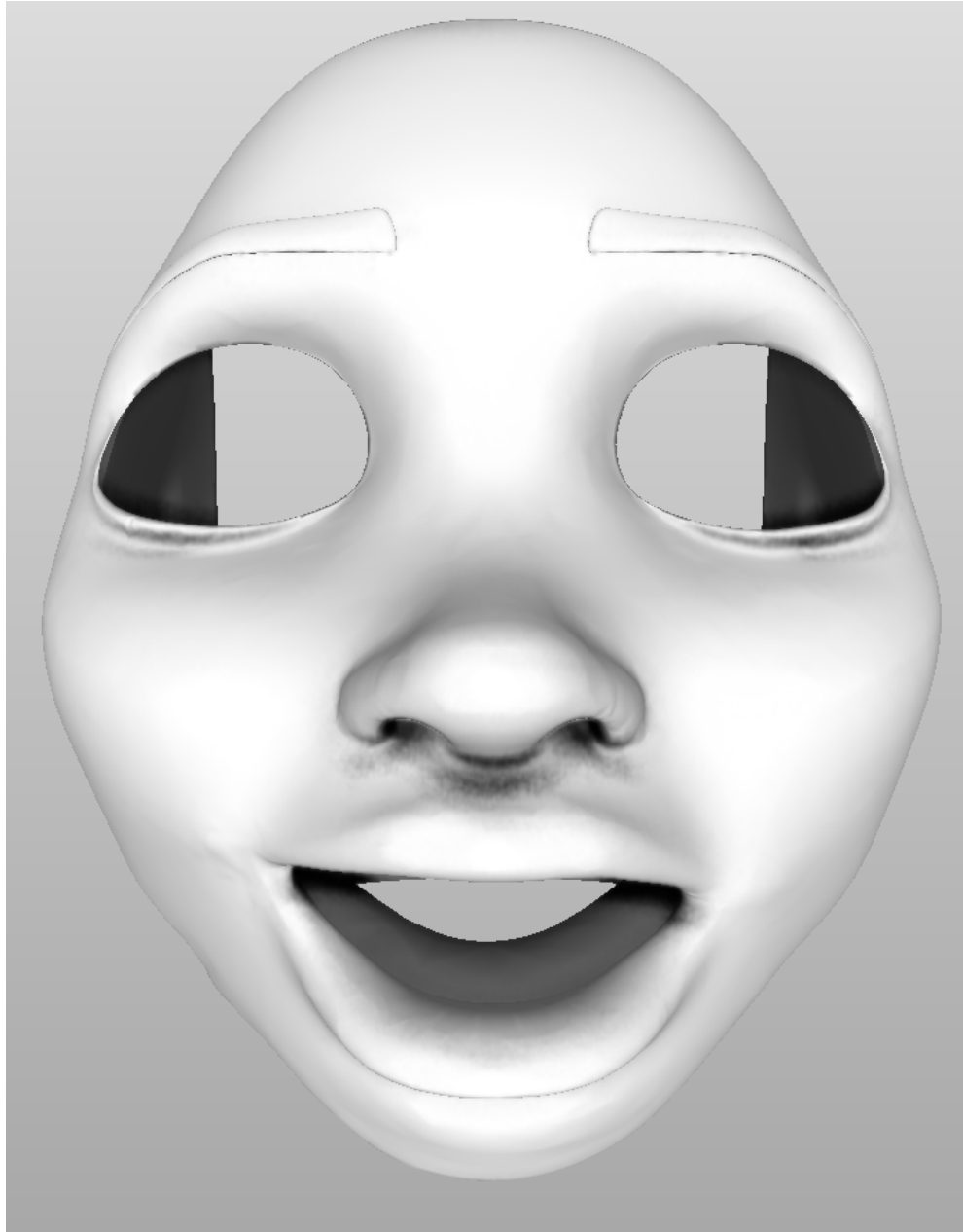Max Vertex Error — Average Vertex Error in meters 0.001186763026 — 9.29E-05

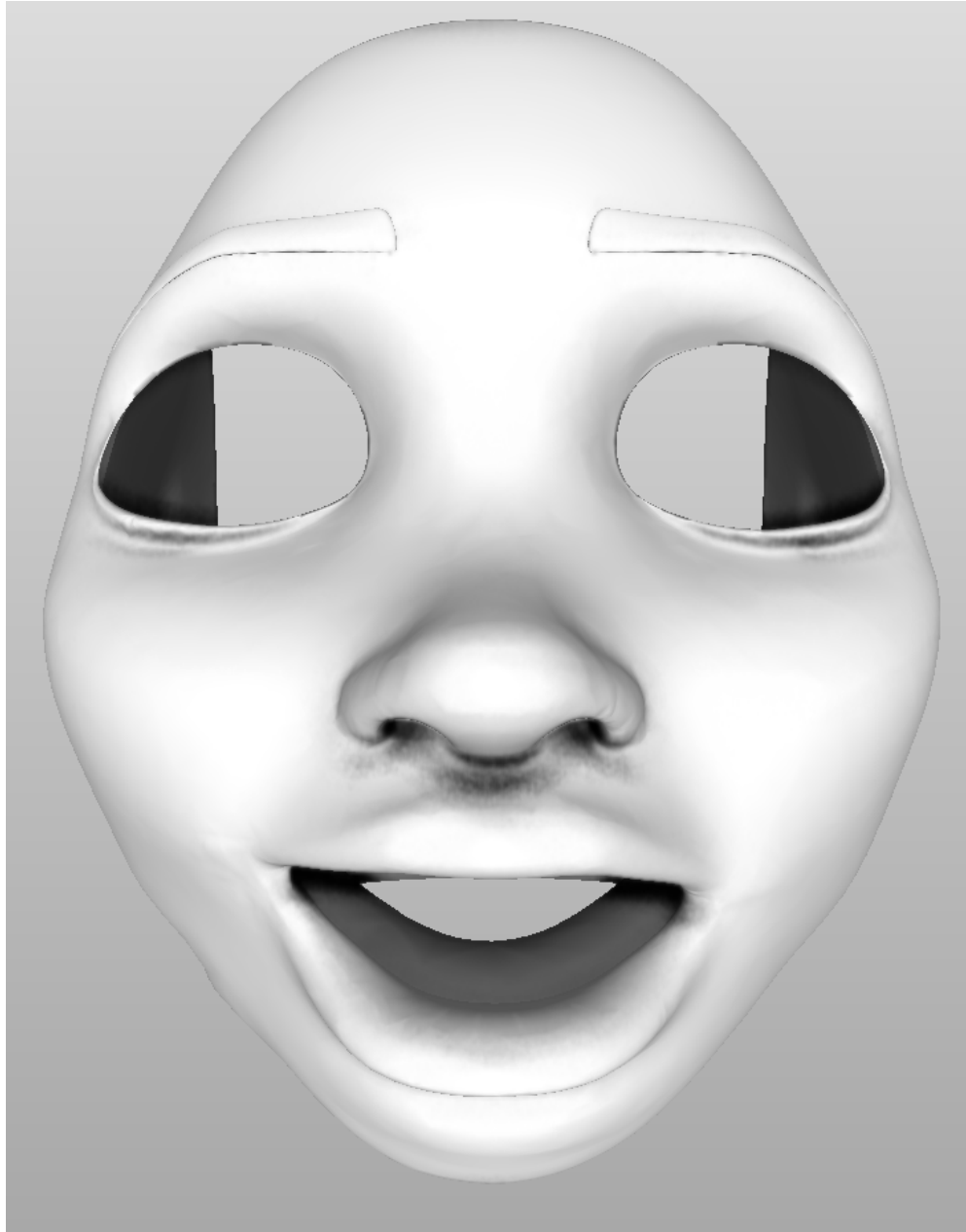**Figure 98**. Pose D19: Stylized Audio-Animatronic® - Reference Simulation

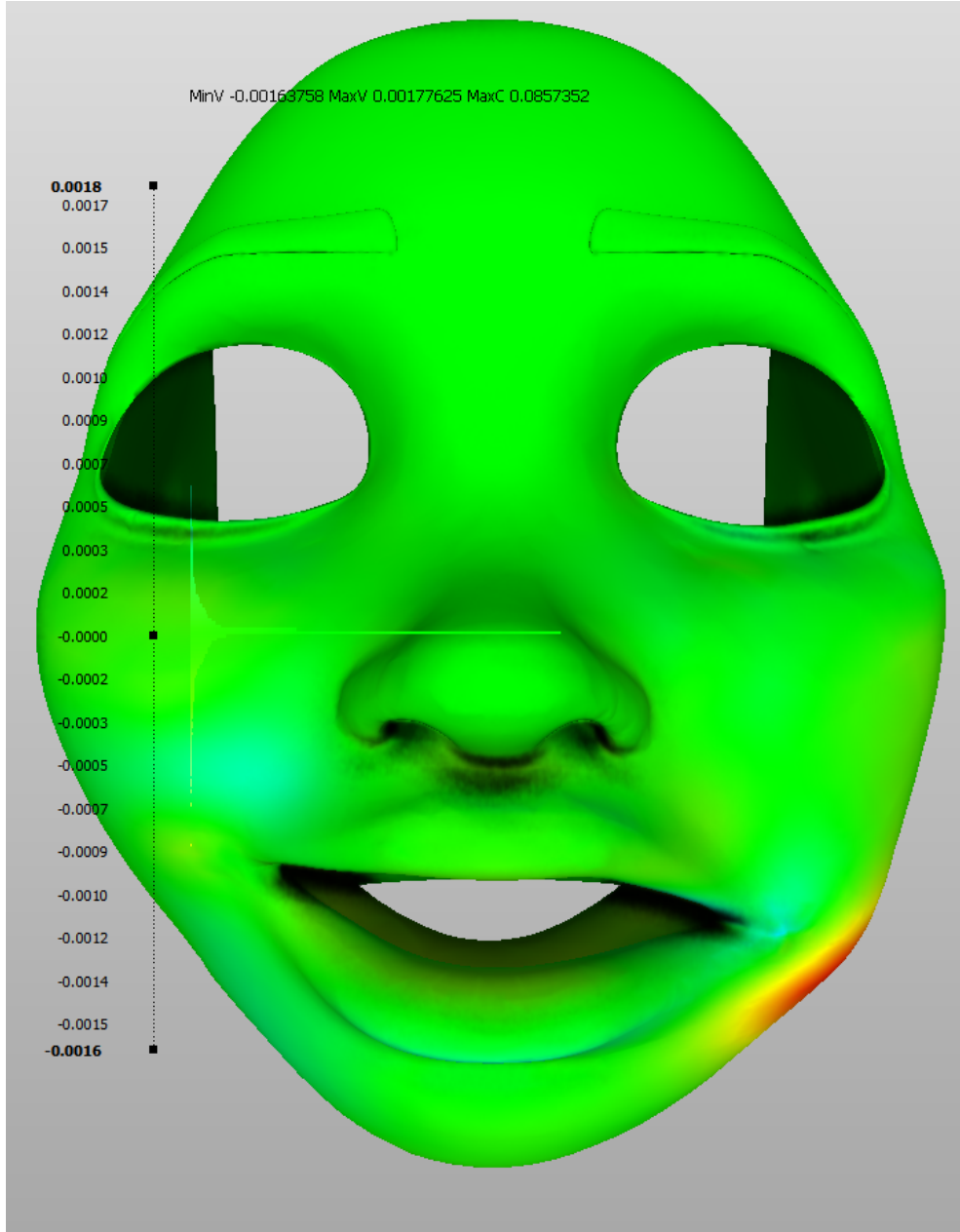**Figure 99**. Pose D19: Stylized Audio-Animatronic® - Predicted

Figure 100. Pose E00: Stylized Audio-Animatronic® - Error Visualization

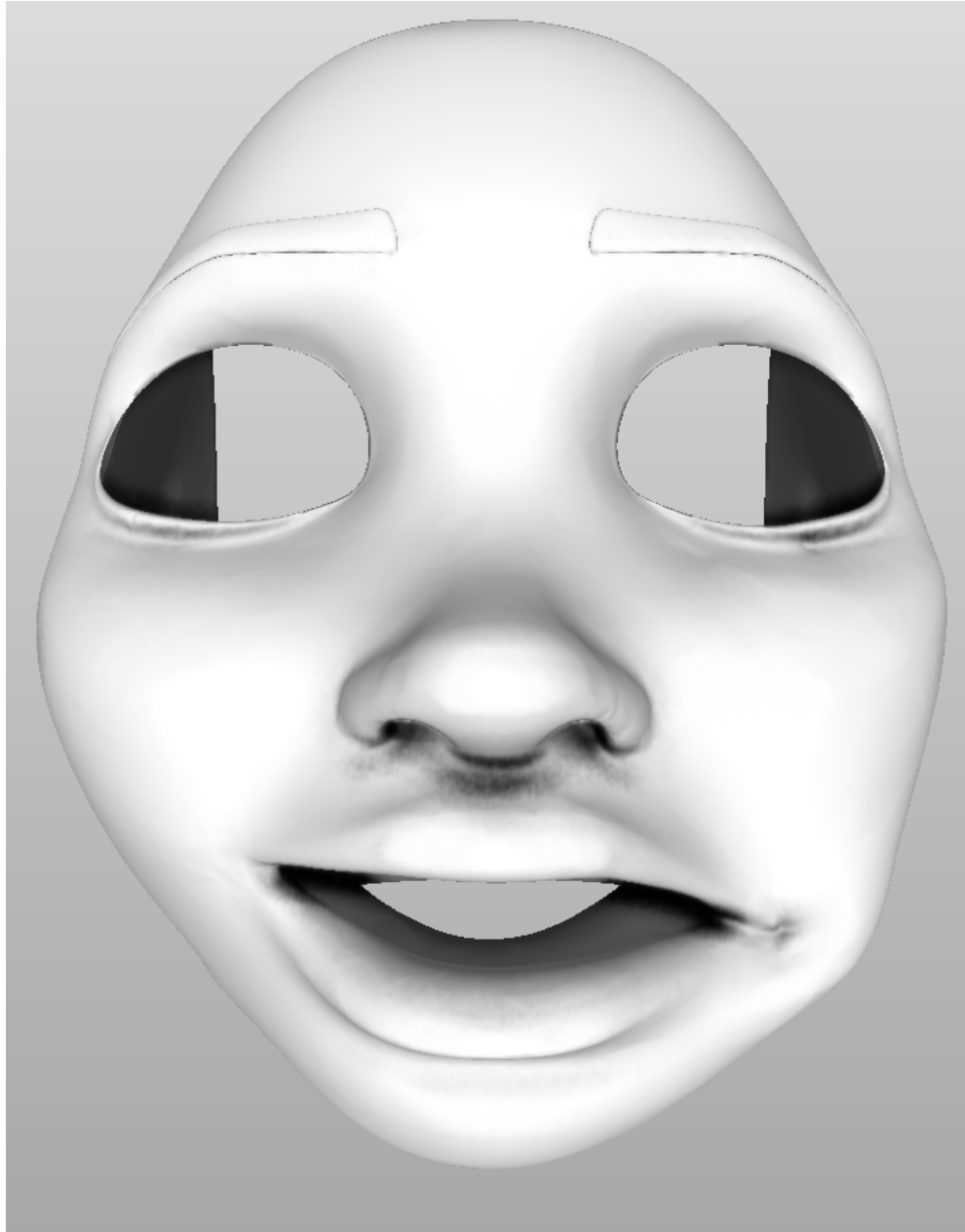Max Vertex Error — Average Vertex Error in meters 0.002017297809 — 0.0001129470107

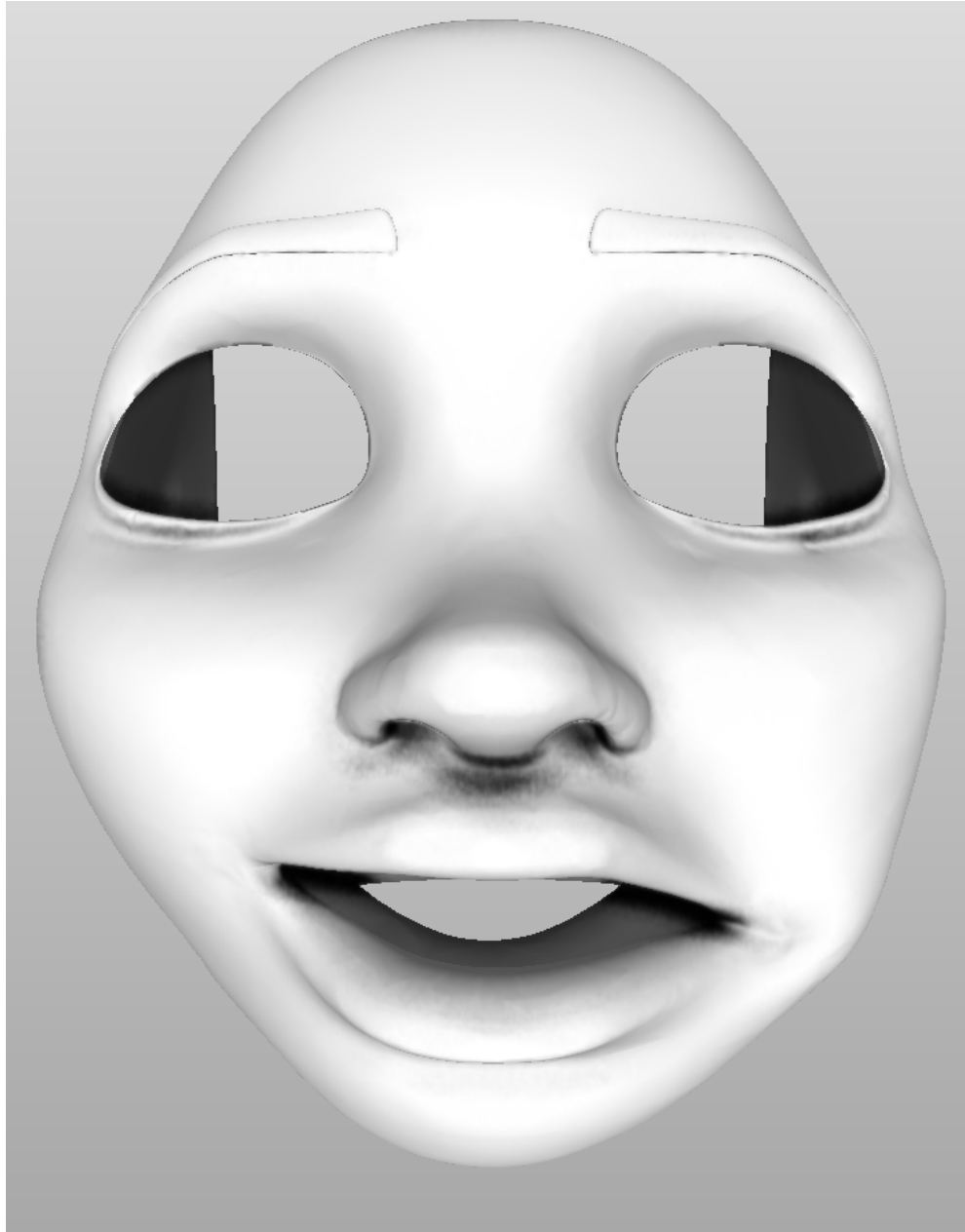**Figure 101**. Pose E00: Stylized Audio-Animatronic® - Reference Simulation

Figure 102. Pose E00: Stylized Audio-Animatronic® - Predicted