

2. The volume rendering pipeline typical components are:

- Data Traversal → sampling positions are chosen, for the volume rendering integral computation
- Interpolation → As the sampling positions are usually different from grid points of the source, interpolation has to be performed to obtain the data values at the sample points
- Gradient Computation → The gradient of the scalar field is often used to compute local illumination. typically approximated by discrete gradient filters, such as central differences.
- Classification → Classification maps properties of the data set to optical properties for the volume-rendering integral. It is usually based on transfer functions. The transfer function typically assigns the optical properties color and opacity.
- Shading and Illumination → Volume shading can be incorporated by adding an illumination term to the emissive source term.
- Compositing → Compositing is the basis for the iterative computation of discretized volume-rendering integral

optical properties are through a transfer function, which maps geometrical points to optical properties (absorption, emission)

Two strategies

- pre-interpolative mapping
- post-interpolative mapping