

Matriz de Confusão

The figure displays a 50x50 confusion matrix for gemstone classification. The rows represent the actual classes (Classificação Correta) and the columns represent the predicted classes (Predição). The matrix shows the number of instances correctly classified (diagonal) and incorrectly classified (off-diagonal).

Classes (Rows): Morganite, Tsavorite, Tanzanite, Quartz Beer, Larimar, Jasper, Iolite, Variscite, Blue Lace Agate, Danburite, Hiddenite, Chrome Diopside, Sapphire Blue, Dumortierite, Sodalite, Amber, Hessonite, Serpentine, Bloodstone, Goshenite, Diaspore, Quartz Lemon, Almandine, Quartz Rutilated, Aquamarine, Pyrope, Alexandrite, Andradite, Onyx Green, Chrysoprase, Spheene, Tigers Eye, Chalcedony Blue, Amethyst, Sapphire Purple, Aventurine Yellow, Coral, Chalcedony, Ruby, Amazonite, Spinell, Andalusite, Citrine, Rhodonite, Carnelian, Peridot, Spessartite, Rhodochrosite, Benitoite, Pyrite, Zircon, Cats Eye, Chrysoberyl, Diamond, Kyanite, Grossular, Opal, Kunzite, Malachite, Beryl Golden, Zoisite, Prehnite, Tourmaline, Topaz, Bixbite, Quartz Rose, Sapphire Pink, Jade, Labradorite, Aventurine Green, Fluorite, Rhodolite, Onyx Black, Sunstone, Chrysocolla, Quartz Smoky, Scapolite, Lapis Lazuli, Garnet Red, Onyx Red, Pearl, Moonstone, Turquoise, Emerald, Sapphire Yellow, Ametrine, Spodumene.

Predição (Columns): Same as Rows.

Key Observations:

- Diagonal elements are consistently 1, indicating perfect self-classification.
- Off-diagonal values represent misclassification counts. Notable examples include:
 - Tanzanite misclassified as Beryl Golden (4) and Garnet Red (4).
 - Garnet Red misclassified as Onyx Red (4) and Pearl (4).
 - Beryl Golden misclassified as Zoisite (3) and Prehnite (5).
 - Quartz Beer misclassified as Larimar (4).
 - Sapphire Blue misclassified as Dumortierite (4).
 - Dumortierite misclassified as Sodalite (4).
 - Sodalite misclassified as Amber (3).
 - Amber misclassified as Hessonite (3).
 - Hessonite misclassified as Serpentine (2).
 - Serpentine misclassified as Bloodstone (4).
 - Bloodstone misclassified as Goshenite (4).
 - Goshenite misclassified as Diaspore (4).
 - Diaspore misclassified as Quartz Lemon (2).
 - Quartz Lemon misclassified as Almandine (2) and Quartz Rutilated (5).
 - Almandine misclassified as Quartz Rutilated (5).
 - Quartz Rutilated misclassified as Aquamarine (2) and Pyrope (2).
 - Aquamarine misclassified as Pyrope (2) and Alexandrite (3).
 - Pyrope misclassified as Alexandrite (3) and Andradite (2).
 - Alexandrite misclassified as Andradite (2) and Onyx Green (4).
 - Andradite misclassified as Onyx Green (4) and Chrysoprase (4).
 - Onyx Green misclassified as Chrysoprase (4) and Spheene (3).
 - Chrysoprase misclassified as Spheene (3) and Tigers Eye (5).
 - Spheene misclassified as Tigers Eye (5) and Chalcedony Blue (4).
 - Tigers Eye misclassified as Chalcedony Blue (4) and Amethyst (2).
 - Chalcedony Blue misclassified as Amethyst (2) and Sapphire Purple (3).
 - Amethyst misclassified as Sapphire Purple (3) and Aventurine Yellow (3).
 - Sapphire Purple misclassified as Aventurine Yellow (3) and Coral (2).
 - Aventurine Yellow misclassified as Coral (2) and Chalcedony (3).
 - Coral misclassified as Chalcedony (3) and Ruby (4).
 - Chalcedony misclassified as Ruby (4) and Amazonite (3).
 - Ruby misclassified as Amazonite (3) and Spinell (4).
 - Amazonite misclassified as Spinell (4) and Andalusite (1).
 - Spinell misclassified as Andalusite (1) and Citrine (2).
 - Andalusite misclassified as Citrine (2) and Rhodonite (4).
 - Citrine misclassified as Rhodonite (4) and Carnelian (4).
 - Rhodonite misclassified as Carnelian (4) and Peridot (4).
 - Carnelian misclassified as Peridot (4) and Spessartite (4).
 - Peridot misclassified as Spessartite (4) and Rhodochrosite (4).
 - Spessartite misclassified as Rhodochrosite (4) and Benitoite (1).
 - Rhodochrosite misclassified as Benitoite (1) and Pyrite (5).
 - Benitoite misclassified as Pyrite (5) and Zircon (2).
 - Pyrite misclassified as Zircon (2) and Cats Eye (4).
 - Zircon misclassified as Cats Eye (4) and Chrysoberyl (3).
 - Cats Eye misclassified as Chrysoberyl (3) and Diamond (1).
 - Chrysoberyl misclassified as Diamond (1) and Kyanite (2).
 - Diamond misclassified as Kyanite (2) and Grossular (5).
 - Kyanite misclassified as Grossular (5) and Opal (2).
 - Grossular misclassified as Opal (2) and Kunzite (1).
 - Opal misclassified as Kunzite (1) and Malachite (4).
 - Kunzite misclassified as Malachite (4) and Beryl Golden (3).
 - Malachite misclassified as Beryl Golden (3) and Zoisite (1).
 - Beryl Golden misclassified as Zoisite (1) and Prehnite (5).
 - Zoisite misclassified as Prehnite (5) and Tourmaline (4).
 - Prehnite misclassified as Tourmaline (4) and Topaz (3).
 - Tourmaline misclassified as Topaz (3) and Bixbite (3).
 - Topaz misclassified as Bixbite (3) and Quartz Rose (4).
 - Bixbite misclassified as Quartz Rose (4) and Sapphire Pink (4).
 - Quartz Rose misclassified as Sapphire Pink (4) and Jade (3).
 - Sapphire Pink misclassified as Jade (3) and Labradorite (5).
 - Jade misclassified as Labradorite (5) and Aventurine Green (5).
 - Labradorite misclassified as Aventurine Green (5) and Fluorite (4).
 - Aventurine Green misclassified as Fluorite (4) and Rhodolite (1).
 - Fluorite misclassified as Rhodolite (1) and Onyx Black (2).
 - Rhodolite misclassified as Onyx Black (2) and Sunstone (1).
 - Onyx Black misclassified as Sunstone (1) and Chrysocolla (4).
 - Sunstone misclassified as Chrysocolla (4) and Quartz Smoky (3).
 - Chrysocolla misclassified as Quartz Smoky (3) and Scapolite (2).
 - Quartz Smoky misclassified as Scapolite (2) and Lapis Lazuli (4).
 - Scapolite misclassified as Lapis Lazuli (4) and Garnet Red (1).
 - Lapis Lazuli misclassified as Garnet Red (1) and Onyx Red (4).
 - Garnet Red misclassified as Onyx Red (4) and Pearl (4).
 - Onyx Red misclassified as Pearl (4) and Moonstone (4).
 - Pearl misclassified as Moonstone (4) and Turquoise (3).
 - Moonstone misclassified as Turquoise (3) and Emerald (4).
 - Turquoise misclassified as Emerald (4) and Sapphire Yellow (2).
 - Emerald misclassified as Sapphire Yellow (2) and Ametrine (3).
 - Sapphire Yellow misclassified as Ametrine (3) and Spodumene (3).
 - Ametrine misclassified as Spodumene (3).
 - Spodumene misclassified as Ametrine (3).