Neutron stars are compact objects with masses ranging from 1.0 to 2.0 solar masses with radii of approximately 10^15 km, resulting in densities on the nuclear scale. Conventional models of non-rotating neutron stars work under the assumption of perfect spherical symmetry; however, such a treatment is not correct if high magnetic fields are present and/or if the matter inside these neutron stars is described by an anisotropic equation of state. Examples of such stars are magnetars and neutron stars which contain color-superconducting quark matter cores. In this talk I will present two models of deformed non-rotating neutron stars within the framework of Einstein's theory of general relativity. The resulting equations, which must be solved numerically, reveal such properties as the masses of the stars, the stellar radii, as well as the profiles of pressure and density within the stars. The implications of these stellar properties on the gravitational redshift will also be discussed.