Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Convolutional Neural Network Driving Thermally Enhanced Upconversion Luminescence for Temperature Sensing: Achieving High Accuracy and Robustness Across a Wide Temperature Range

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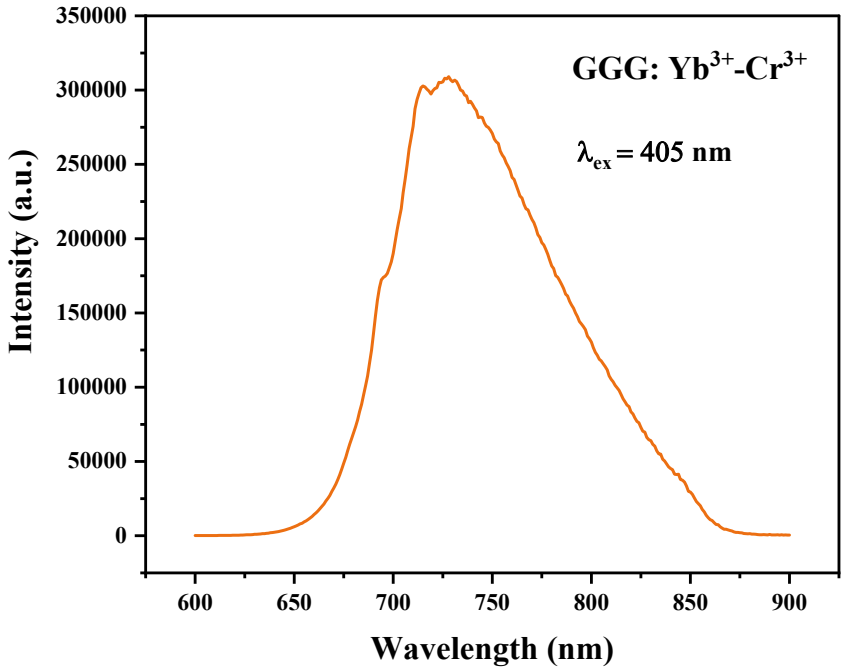

Figure. S1. The photoluminescence spectrum of Cr^{3+} singly doped $Gd_3Ga_5O_{12}$ under 405 nm laser excitation.

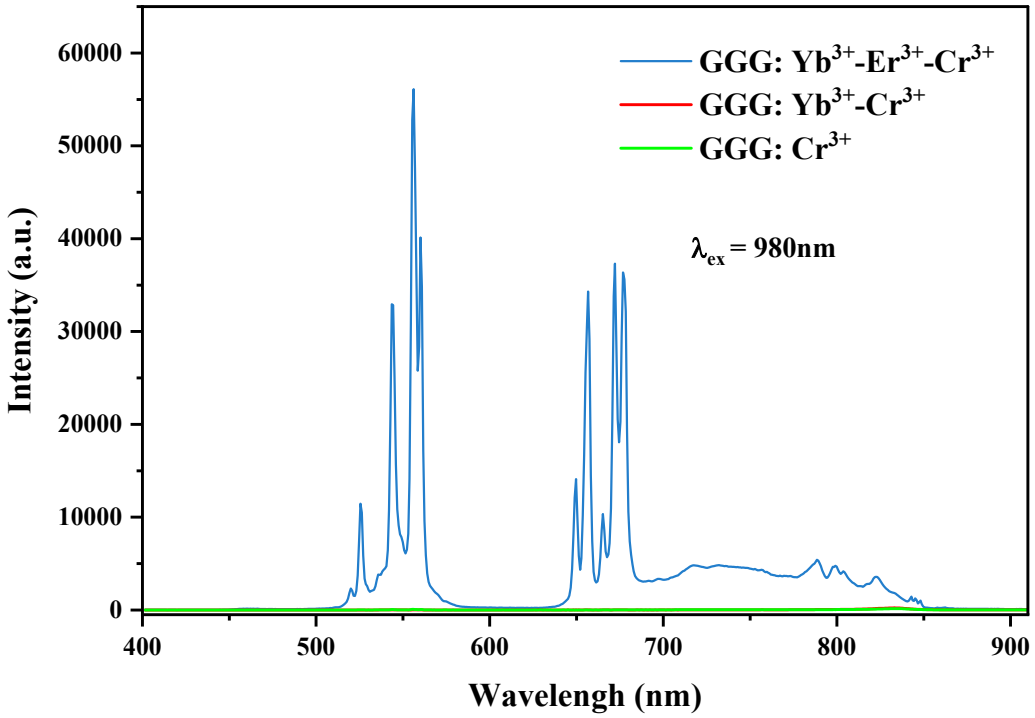

Figure. S2. The photoluminescence spectrum of GGG:Yb^{3+}-Er^{3+}-Cr^{3+}, GGG: Yb^{3+}-Cr^{3+} and GGG: Cr^{3+} under 980 nm laser excitation

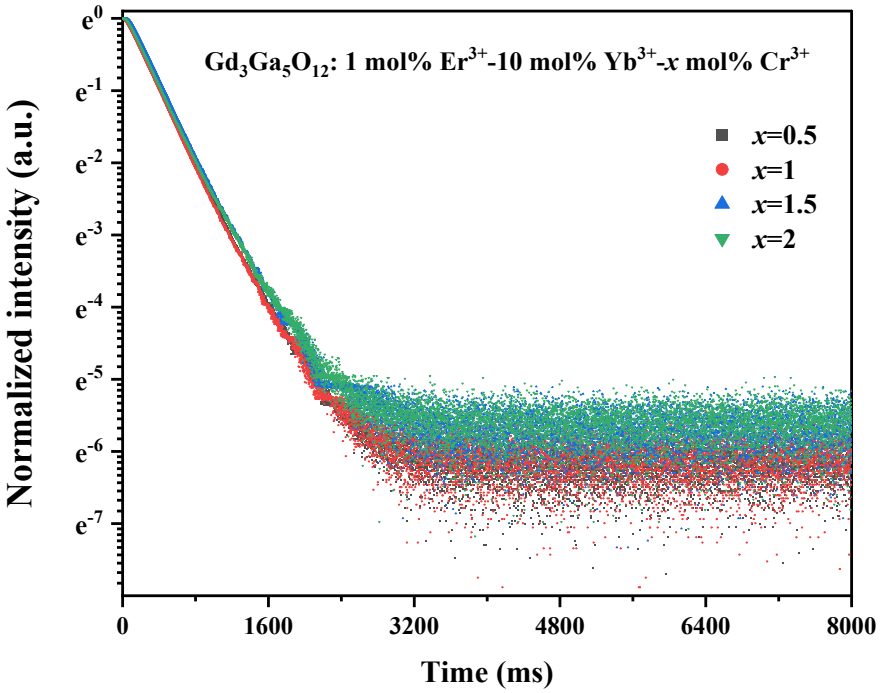

Figure. S3. Luminescence decay curves of $Gd_3Ga_5O_{12}$: Yb^{3+}-Er^{3+}-Cr^{3+} samples with different Cr^{3+} doping concentrations at room temperature

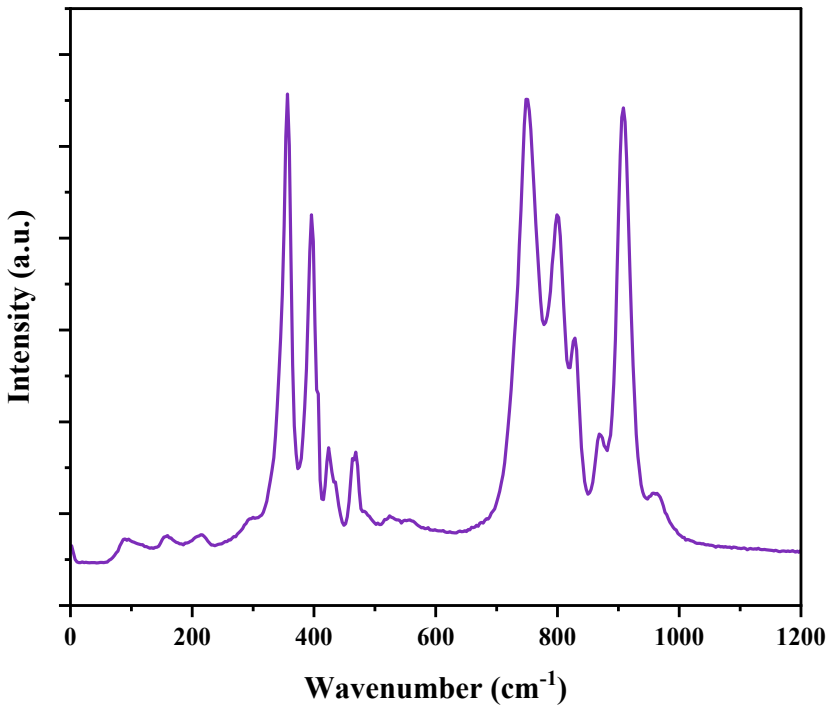

Figure. S4. The Raman spectrum of $Gd_3Ga_5O_{12}$: Yb^{3+}-Er^{3+}-Cr^{3+}