

Highlights

- This paper proposes an electronic nose system (GeNose) for distinguishing fats from three types of meats; moreover, the analysis results are confirmed with the verification using Gas chromatography-mass Spectrometry (GC-MS).
- Not only to determine the type of meat, this study can also differentiate the part of the body from the meat, which has never been done by previous researchers.
- GeNose is qualitative analysis to differentiate gas sensor signals from meat cuts using a proposed algorithm for optimizing parameters of Deep Neural Network.
- The proposed optimal parameters of deep learning could increase the accuracy by 0.44%, with the final accuracy result at 96.46%.
- GeNose reduced into 4 MOS sensors were sufficient to differentiate two categories for three types of meat, which are the same as the results of GC-MS.