



AUTHOR CONTRIBUTION FORM

Instructions

- **Contributor Role(s):** Authors should select all roles that accurately reflect their contributions to the manuscript. It is NOT mandatory to complete all roles; if a role does not apply, leave blank or write "N/A."
- **Signature:** Each author may sign to confirm their stated contributions, or the corresponding author may sign on behalf of all authors, accepting full responsibility.

Contributor Role(s)

Author Name

Signature

Conceptualization: Designing the study, defining intellectual content, and developing the hypotheses.

Methodology: Developing the methodology and selecting appropriate procedures for the research.

Software: Programming, developing software, and conducting formal analysis or simulations.

Validation: Ensuring the validity and reproducibility of the results through independent checks or experiments.

Formal Analysis: Performing statistical, mathematical, or computational analysis of the data.

Contributor Role(s)**Author Name****Signature**

Investigation: Conducting research and investigations, including experiments, surveys, or interviews.

Data Curation: Managing and curating the data, ensuring its usability for analysis or reuse.

Writing – Original Draft: Writing the original manuscript draft.

Writing – Review & Editing: Reviewing and editing the manuscript for intellectual content, clarity, and structure.

Visualization: Creating visual content such as graphs, charts, and diagrams to illustrate research findings.

Supervision: Supervising the research process, including mentoring and providing oversight.

Project Administration: Managing and coordinating the project, including resource allocation and adherence to timelines.

Funding Acquisition: Securing financial support for the research.

Example Final Author Contribution Statements

"J.D.S. conceptualized the study, A.B.T. wrote the original draft, K.M.J. performed the statistical analysis, and S.L.B. supervised the research and provided critical revisions."

"M.N.K. developed the methodology and ensured compliance with ethical standards, and P.L.T. conducted the experiments and collected the data."

"R.J.D. curated the dataset and created the visualizations. L.M. reviewed and edited the manuscript for intellectual content and clarity."