

CRedit Taxonomy

Conceptualization – Ideas; formulation or evolution of overarching research goals and aims.

Data curation – Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.

Formal analysis – Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.

Funding acquisition - Acquisition of the financial support for the project leading to this publication.

Investigation – Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.

Methodology – Development or design of methodology; creation of models.

Project administration – Management and coordination responsibility for the research activity planning and execution.

Resources – Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.

Software – Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.

Supervision – Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.

Validation – Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.

Visualization – Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.

Writing – original draft – Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).

Writing – review & editing – Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages.

Midterm Project – Hsin Ying (Angel) Tseng, Hanbei Xiong, Yuxuan Jiang

Author	Concept	Data curation	Formal analysis	Funding acquisition	Investigation	Methodology	Project admin	Resources	Software	Supervision	Validation	Visualization	Writing – original draft	Writing – review & editing
Yuxuan Jiang	X	X	X	N/A	X		X	N/A	N/A			X	X	
Hanbei Xiong	X		X	N/A	X	X	X	N/A	N/A	X			X	X
Hsin Ying (Angel) Tseng	X	X		N/A	X	X	X	N/A	N/A	X	X		X	

Marked as X or N/A