

Supplementary Material (Document Title: S1)

Article Title:

Systematizing Data Preparation in Smart Manufacturing via Axiomatic Design: A Toolkit Integrating GUI and Agentic AI

Authors:

Angkush Kumar Ghosh, Saman Fattahi, Yu Kogawara, Bahman Azarhoushang, Takuya Okamoto and Sharifu Ura

Description:

This document details the visual screenprints and operational flowcharts for the launcher and tools underlying the developed GUI-based toolkit.

(1) Launcher

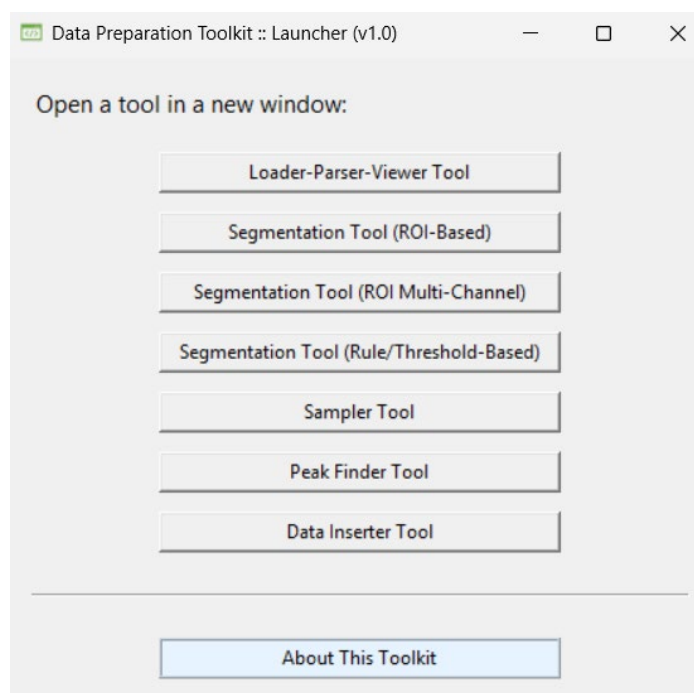


Figure S1-1. Screenprint of the launcher tool.

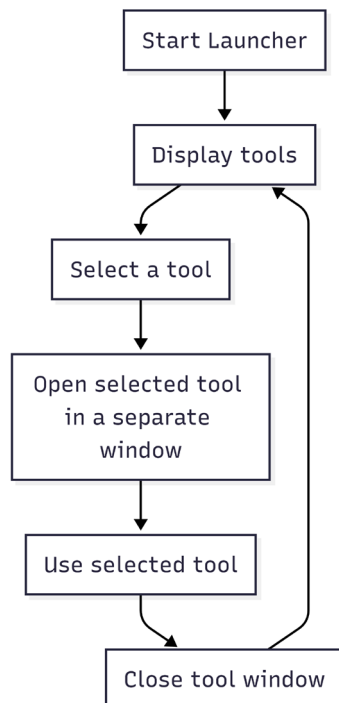


Figure S1-2. Operational flowchart for the launcher tool.

(2) Loader-Parser-Viewer Tool (T1)

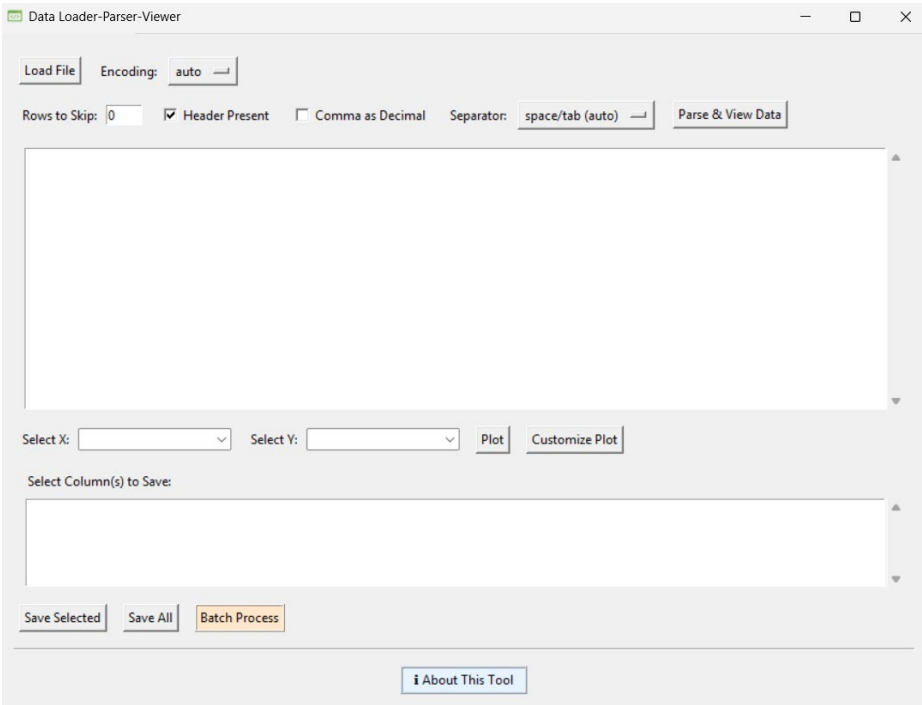


Figure S1-3. Screenprint of the T1 tool.

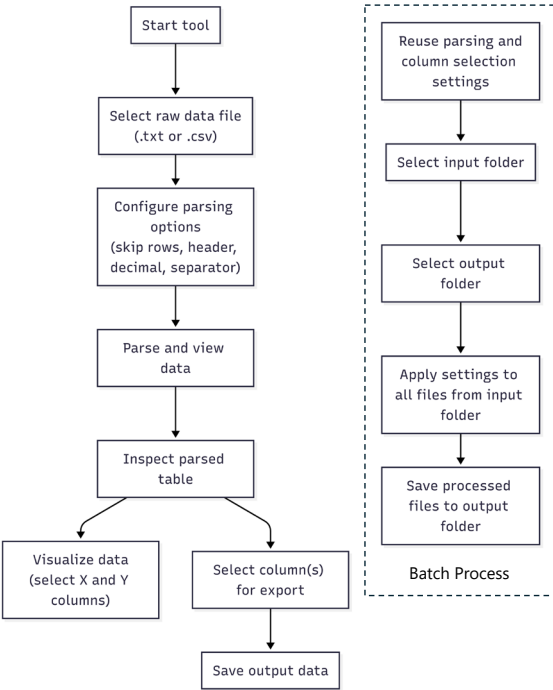


Figure S1-4. Operational flowchart for the T1 tool.

(3) Segmentation Tool (ROI-Based) (T2)

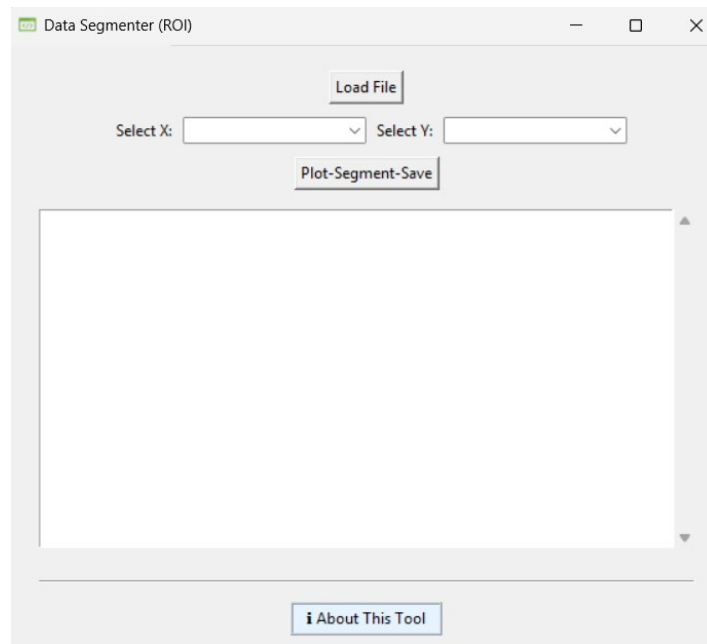


Figure S1-5. Screenprint of the T2 tool.

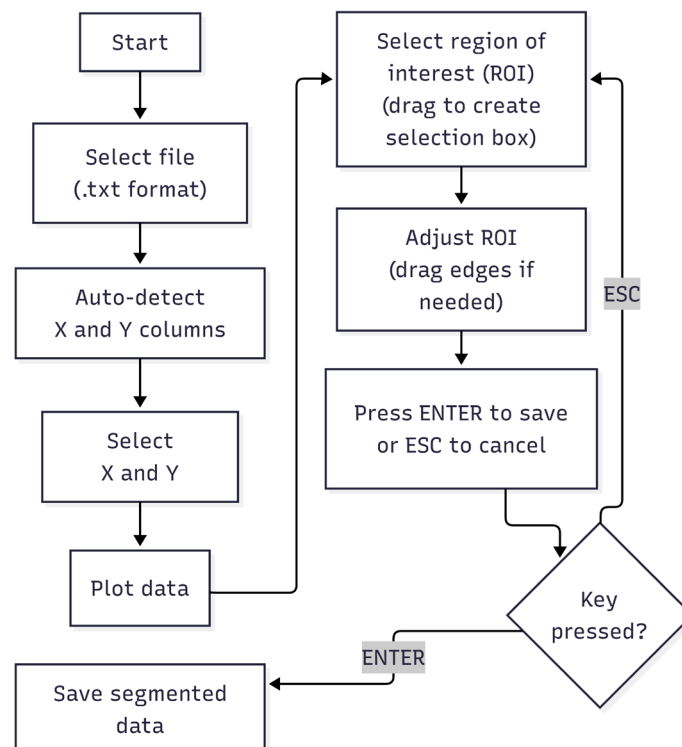


Figure S1-6. Operational flowchart for the T2 tool.

(4) Segmentation Tool (ROI Multi-Channel) (T3)

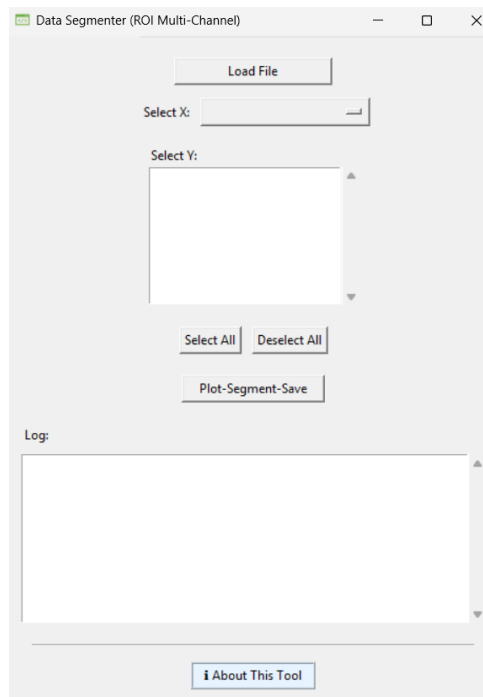


Figure S1-7. Screenprint of the T3 tool.

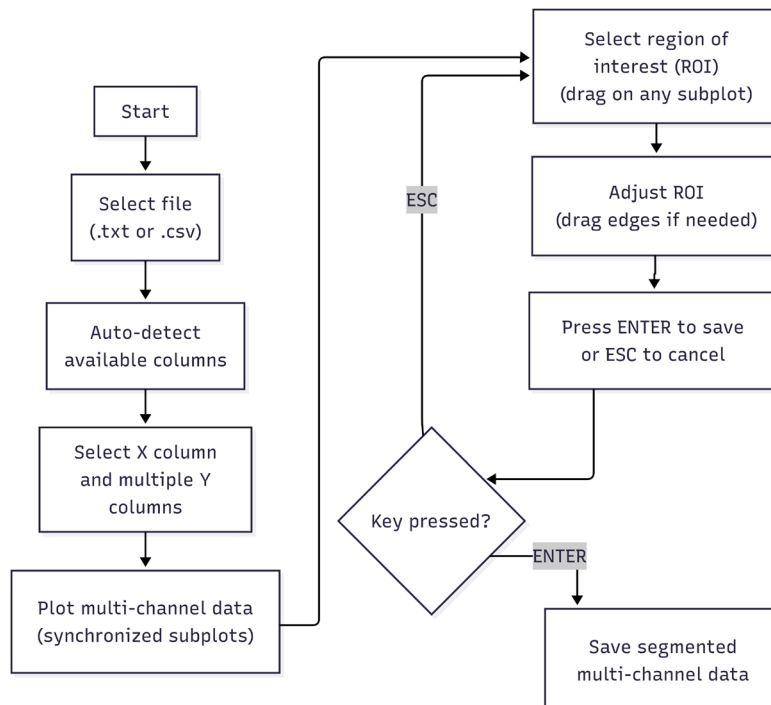


Figure S1-8. Operational flowchart for the T3 tool.

(5) Segmentation Tool (Rule/Threshold-based) (T4)

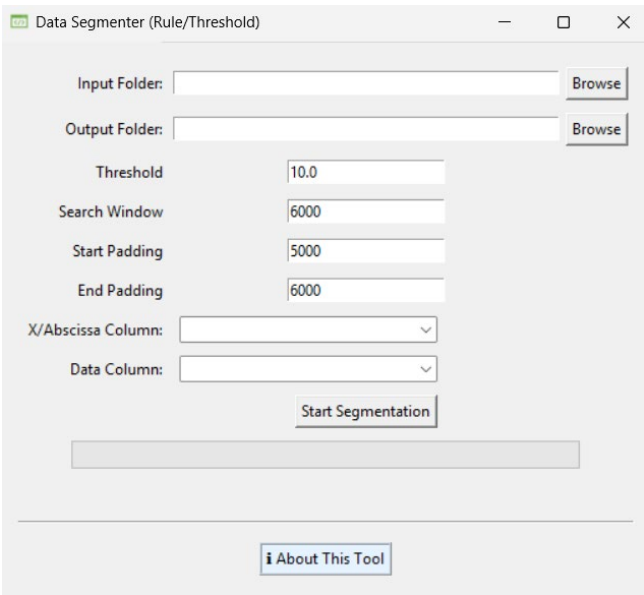


Figure S1-9. Screenprint of the T4 tool.

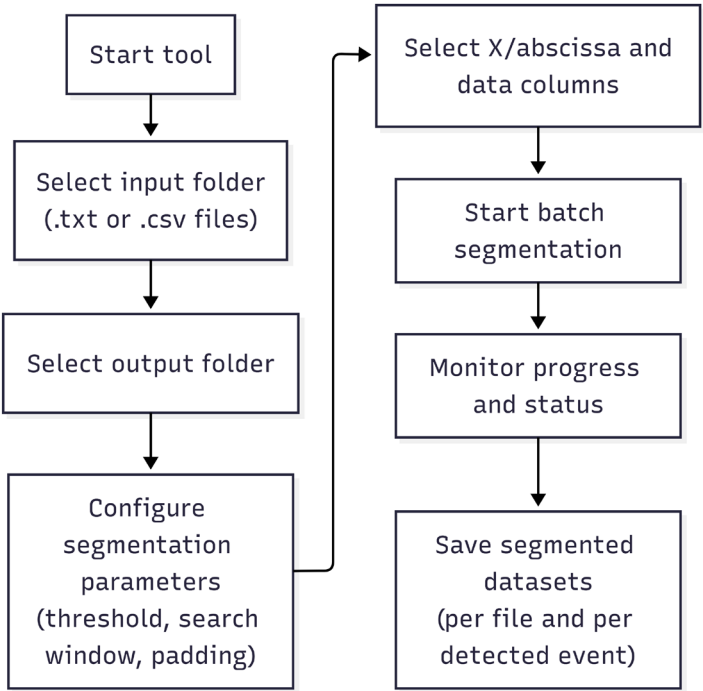


Figure S1-10. Operational flowchart for the T4 tool.

(6) Sampler Tool (T5)

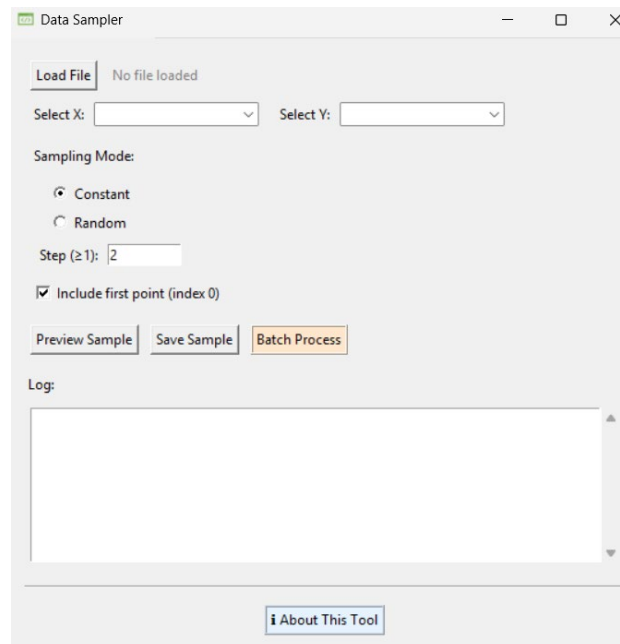


Figure S1-11. Screenprint of the T5 tool.

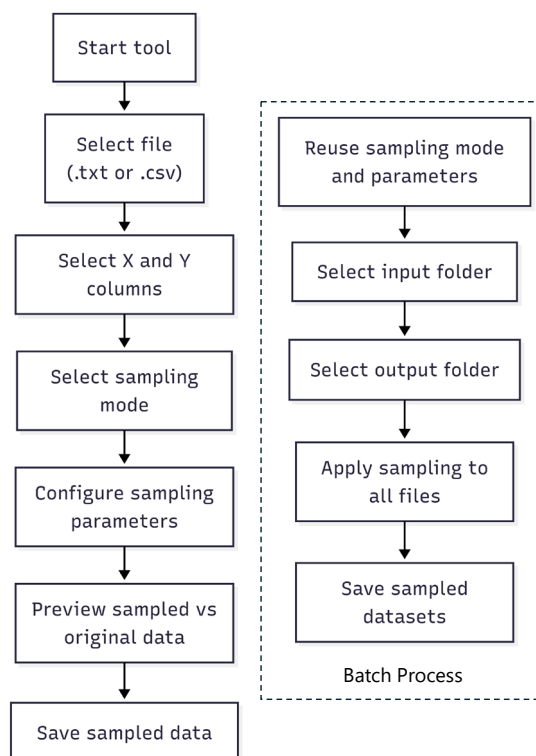


Figure S1-12. Operational flowchart for the T5 tool.

(7) Peak Finder Tool (T6)

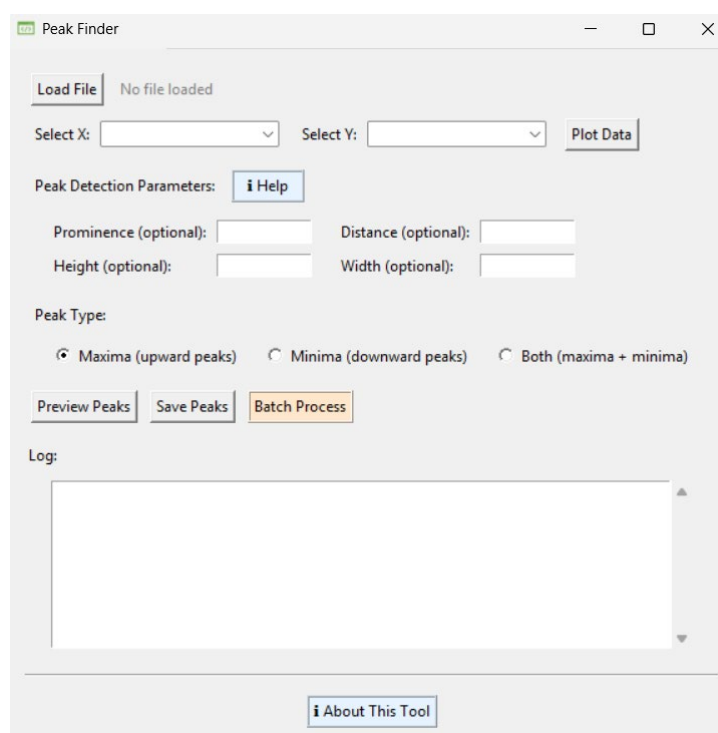


Figure S1-13. Screenprint of the T6 tool.

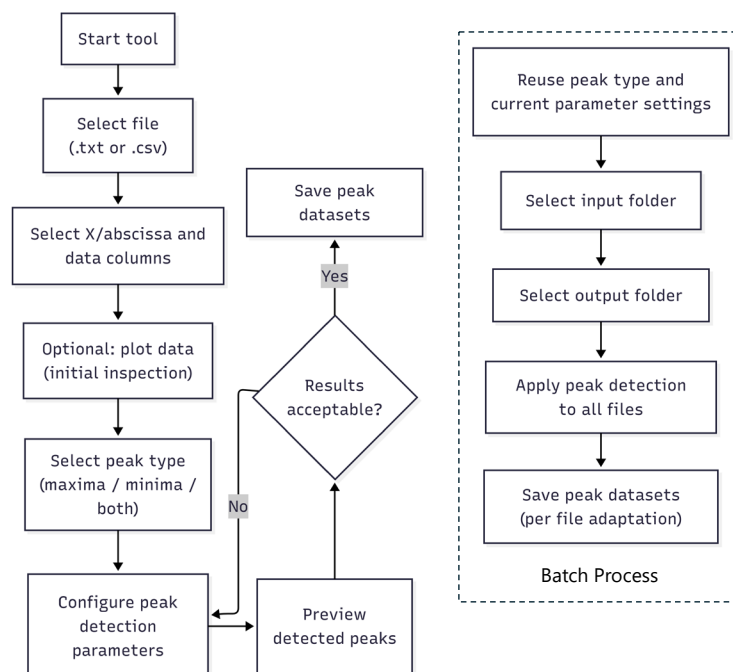


Figure S1-14. Operational flowchart for the T6 tool.

(8) Data Inserter Tool (T7)

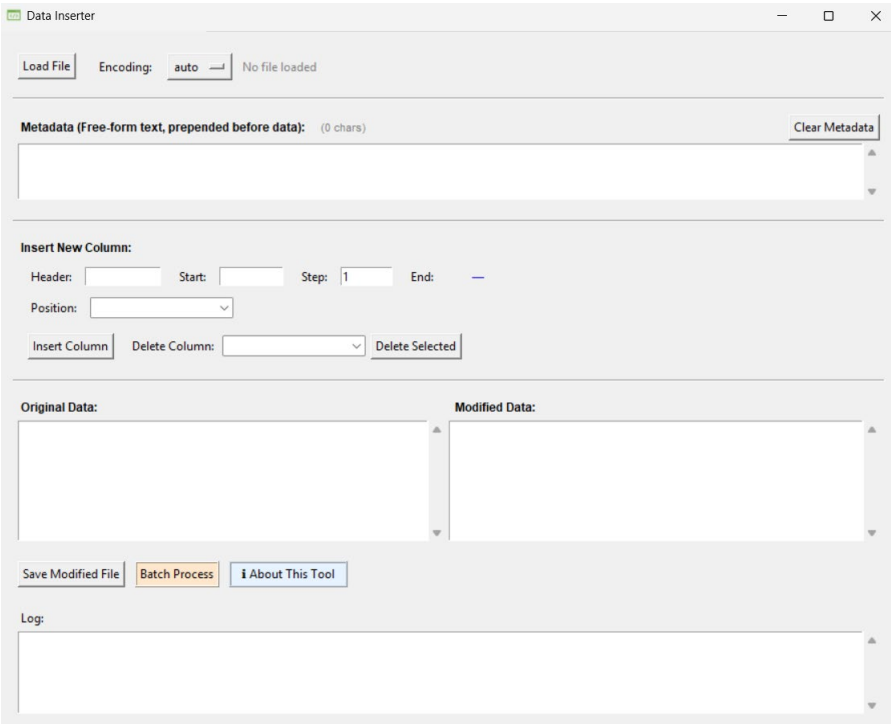


Figure S1-15. Screenprint of the T7 tool.

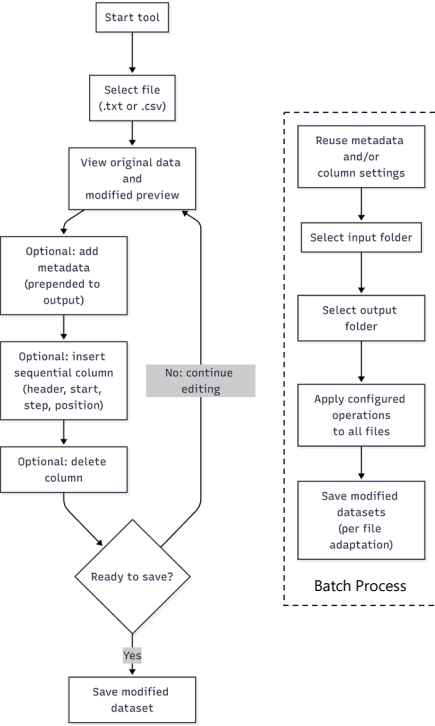


Figure S1-16. Operational flowchart for the T7 tool.