

Synapse-Aware Skeleton Generation for Neural Circuits

Supplementary Material

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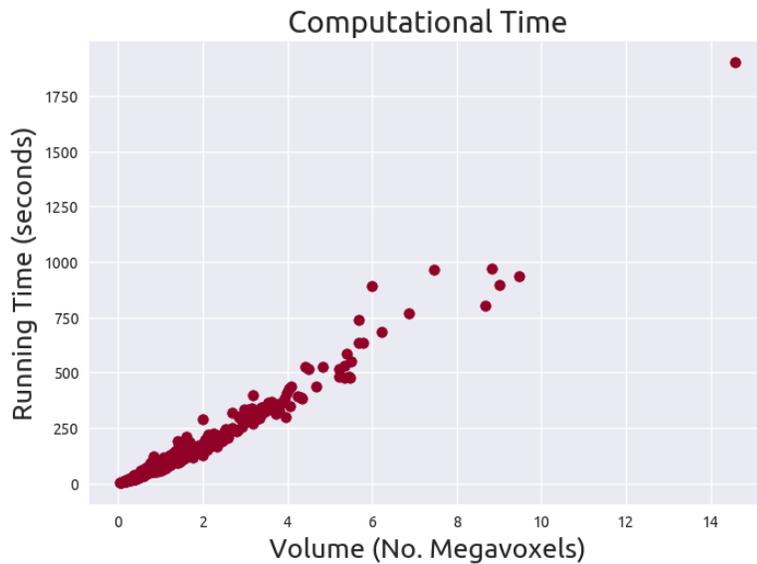


Fig. 1. The computational costs for our algorithm empirically follow a linear runtime on the FIB-25 dataset with an average throughput of 111,105 voxels per second.

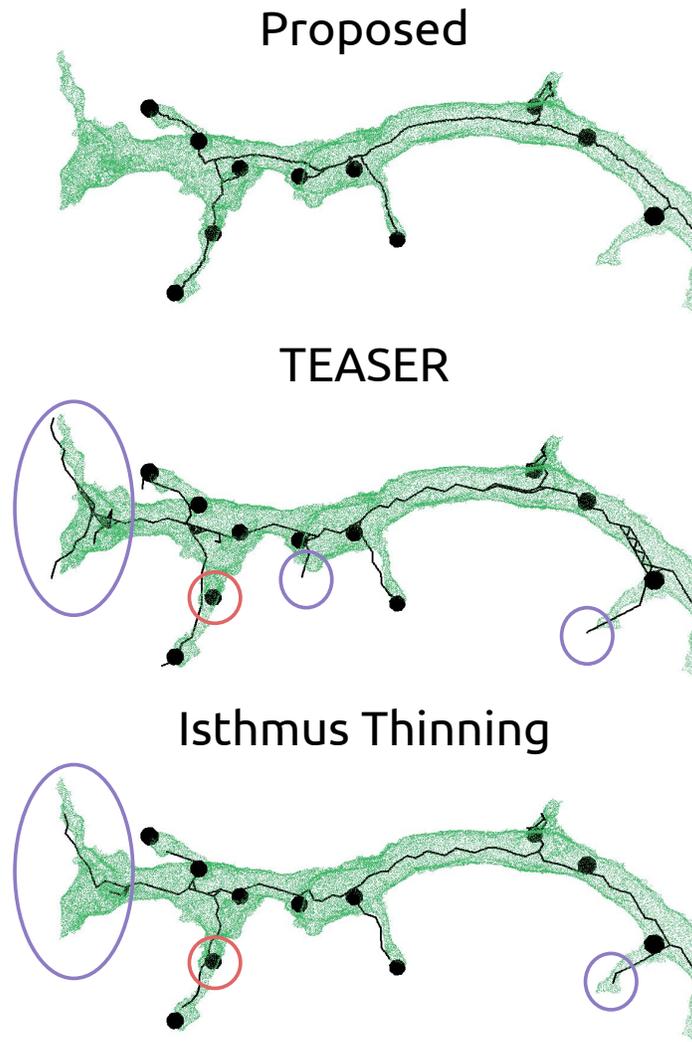


Fig. 2. Here is a side-by-side comparison of our proposed method compared to our two baselines on a neuron fragment from the FIB-25 dataset. Our method guarantees endpoints only at synapse locations. The TEASER and isthmus thinning methods introduce new endpoints (purple circles) and miss others (red circles).

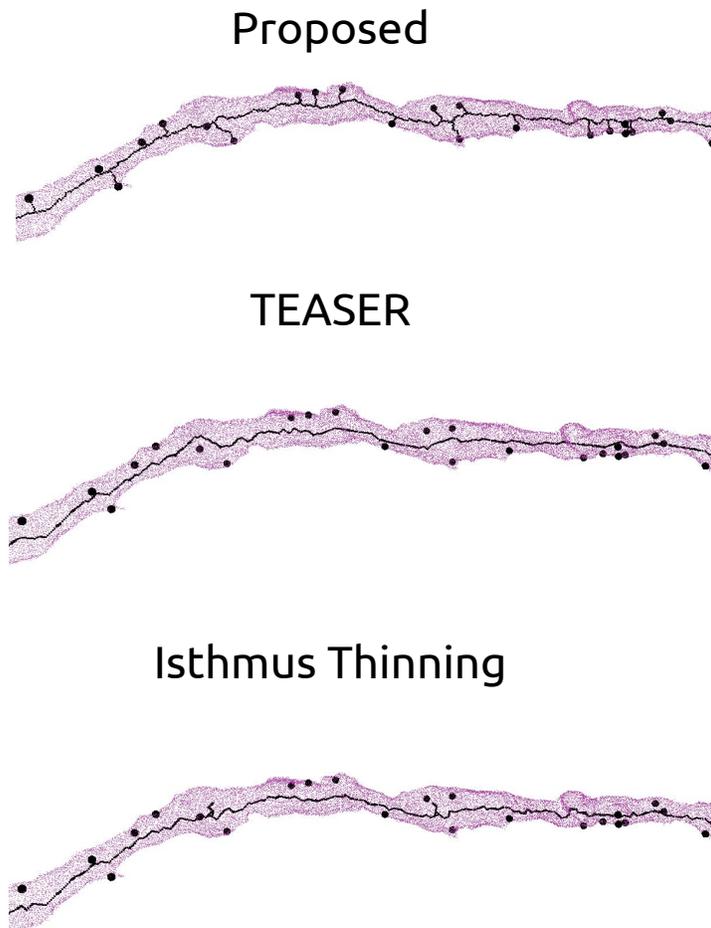


Fig. 3. The two baseline strategies fail to connect any of the synapses to the skeleton in this segment from JWR. Under the proposed strategy, there is a path between each synapse and the center-line.

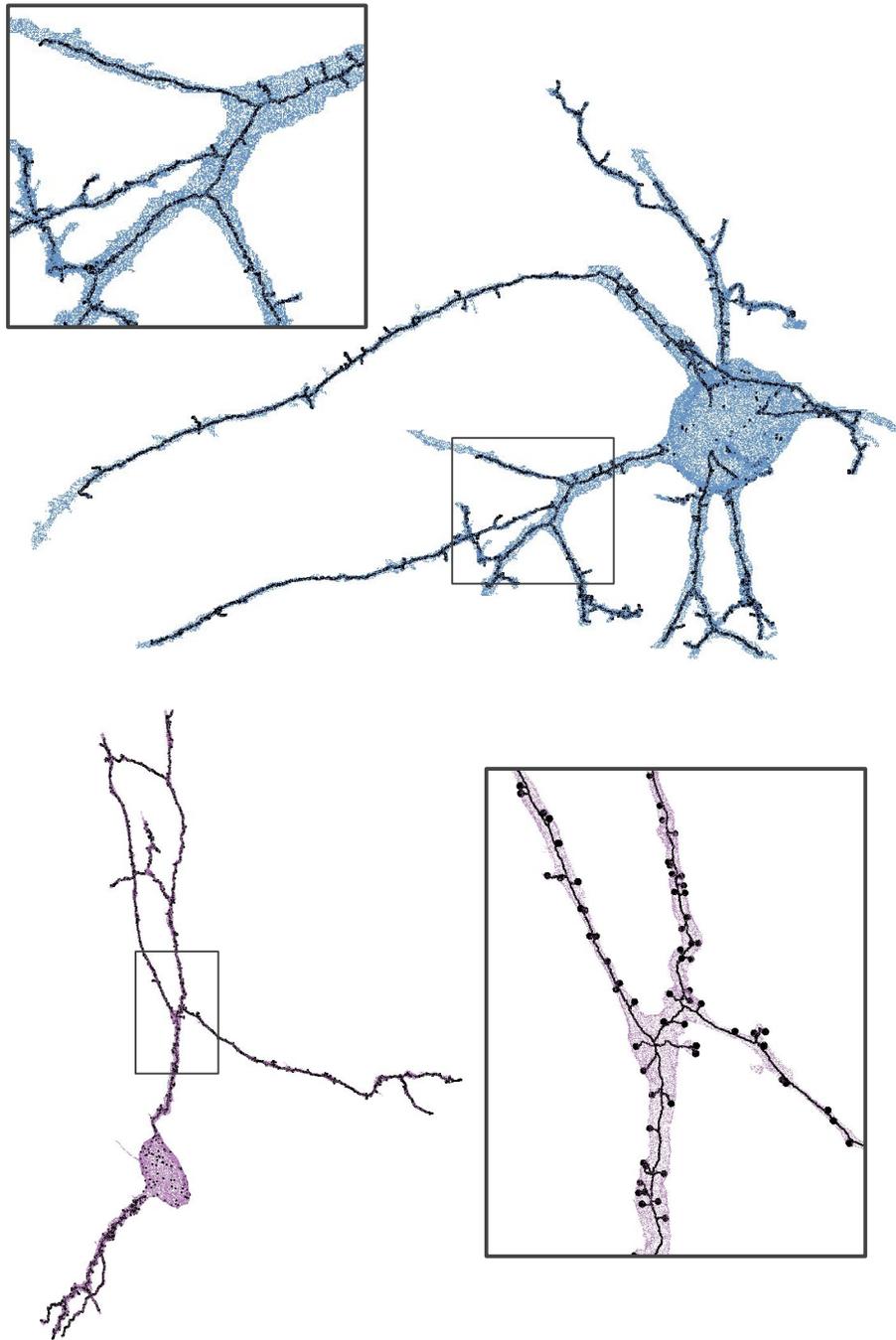


Fig. 4. Two additional examples from the JWR dataset (rat). For both neurons, we also zoom in to one location to show the finer details.

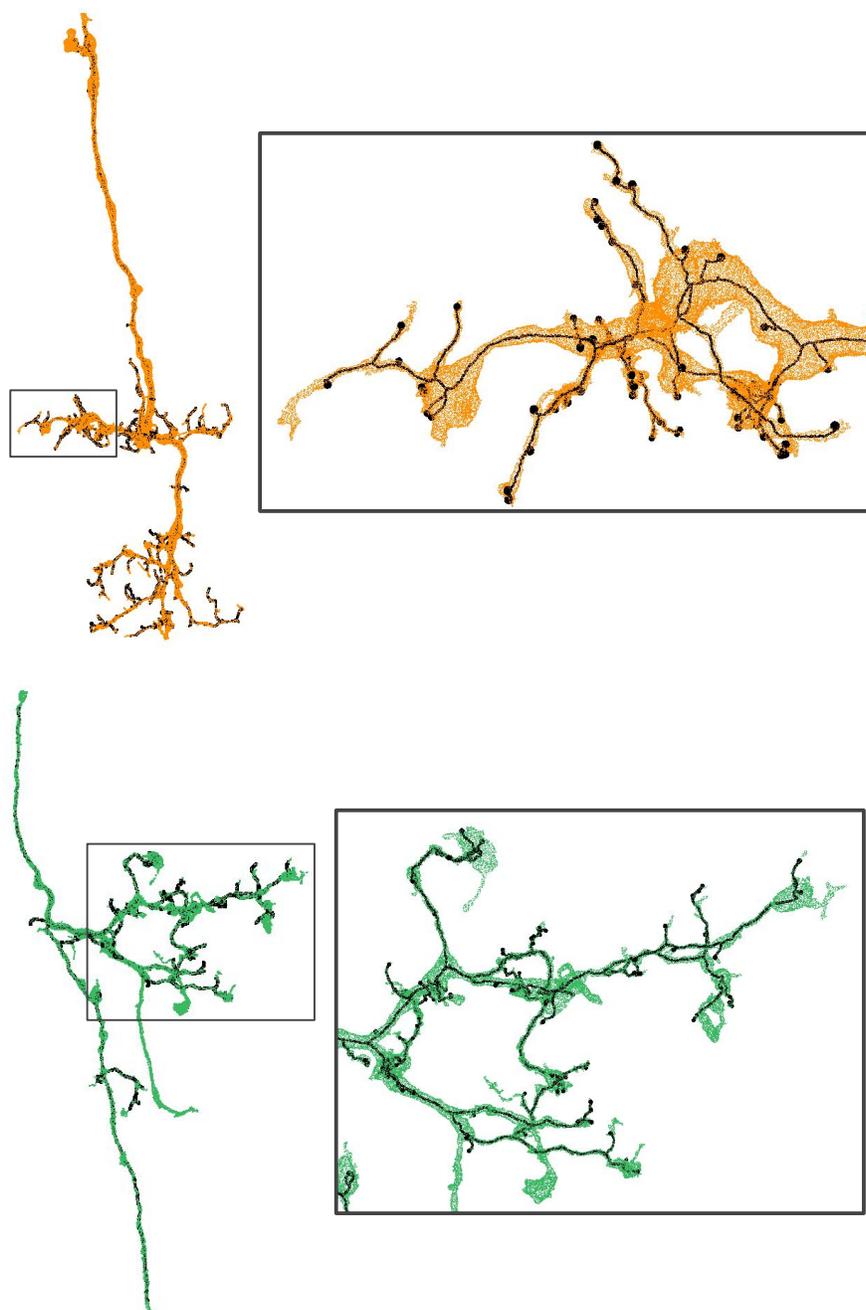


Fig. 5. Two additional examples from the FIB-25 dataset (fruit fly). For both neurons, we also zoom in to one location to show the finer details.

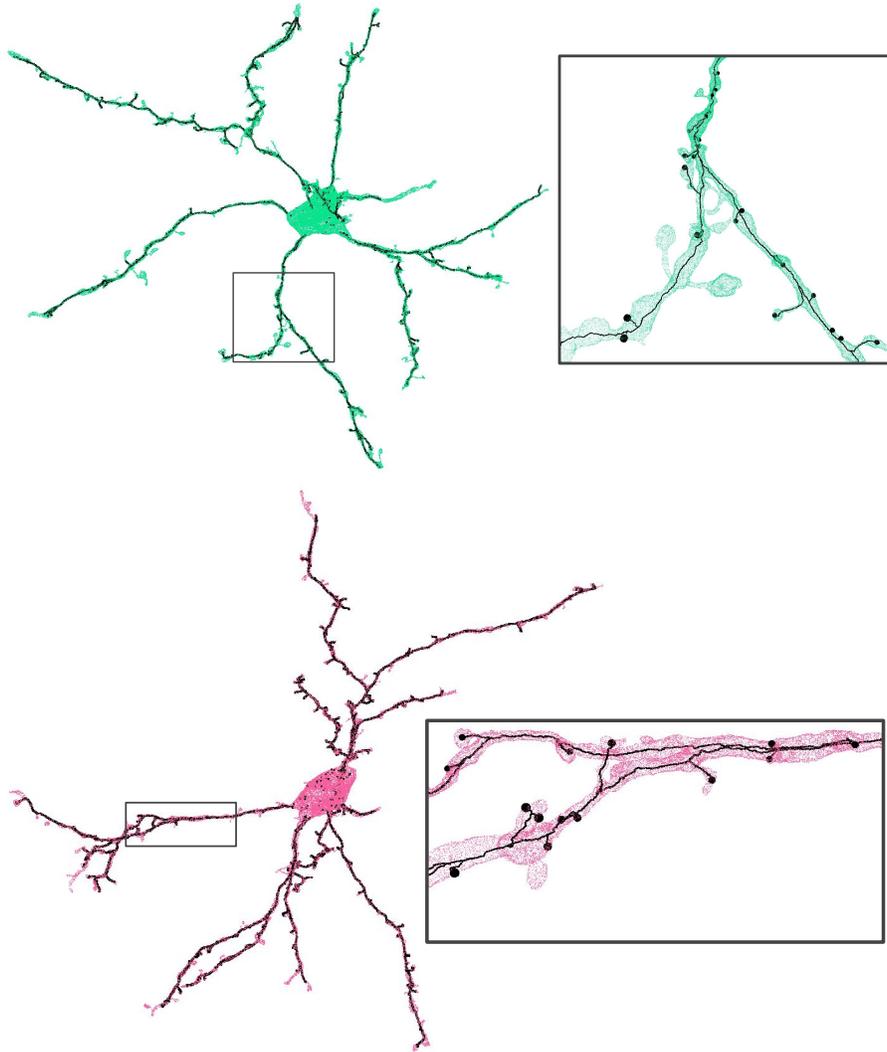


Fig. 6. Two additional examples from the J0126 dataset (zebrafinch). For both neurons, we also zoom in to one location to show the finer details.