TOOLBOX

Online tool sketches, traces and analyzes neurons

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Browser not compatible.

Show an image of a neuron to NEMO, a new **free** software tool, and it will **trace the neuron's shape** and detail the length, breadth and number of its branches, scientists who designed the software reported 14 February in *Frontiers in Neuroinformatics*.

Mutations linked to neurodevelopmental disorders often lead to subtle changes in the shapes of neurons. To detect these, many researchers still analyze images of neurons by painstakingly hand-tracing the cells' many branches. The new tool has the potential to speed up and standardize such studies, the researchers say.

NEMO, which stands for ‘neuron morphological analysis tool,’ can analyze neurons in large batches and automatically run a statistical analysis to identify the primary differences between groups of neurons.

The researchers tested NEMO on neurons from mice lacking one copy of the **engrailed 2** gene, mutations in which **have been linked to autism**. Neurons from these mice are smaller and have fewer signaling branches than those from controls, they found. Similar defects have been seen in neurons from the postmortem brains of people who had autism.