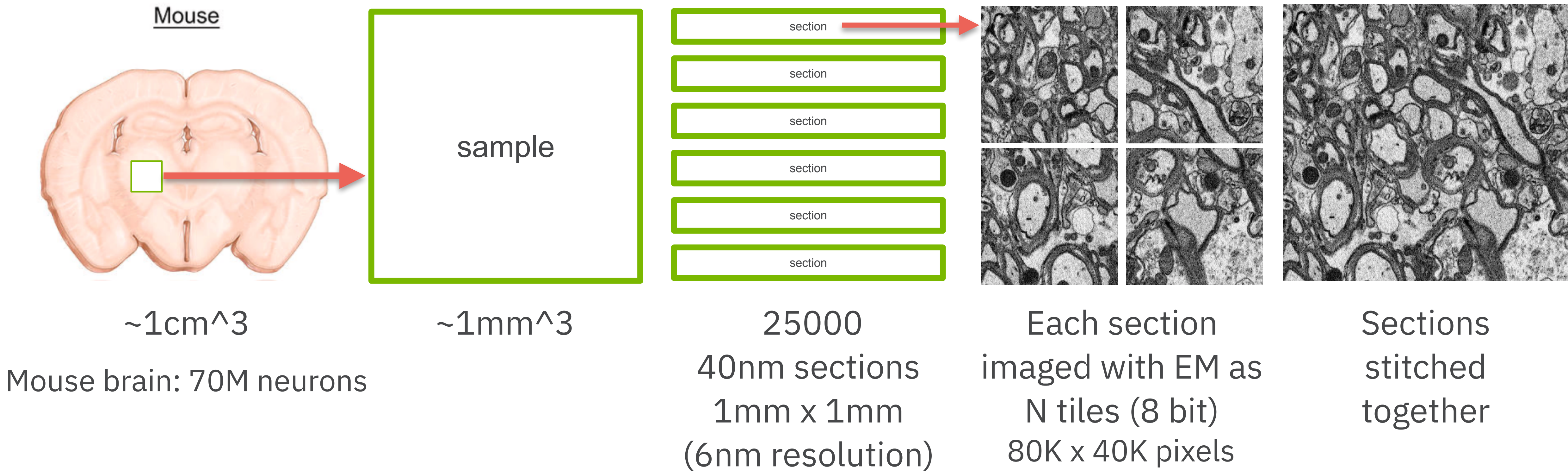


Connectomics Data-Driven Models

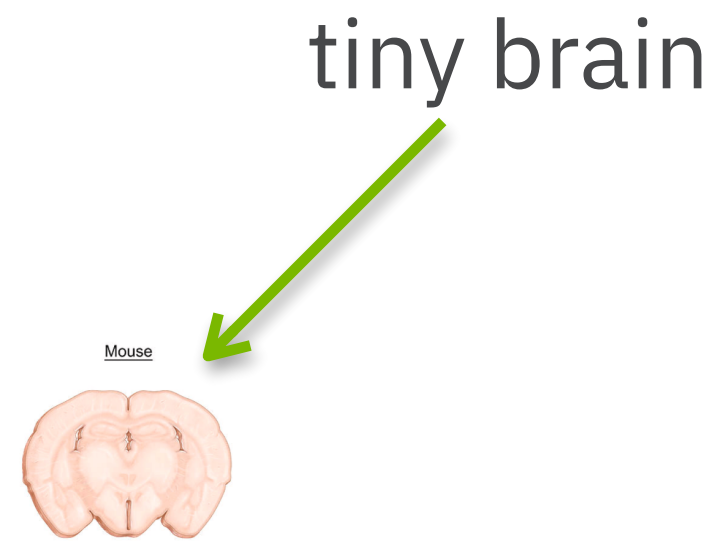


How much image data is 1mm³ ? 1×10^{15} voxels --> ~1 PB

Data Challenges in Connectomics



Mouse brain: 70M neurons



$\sim 1\text{cm}^3$

How much image data is 1cm^3 ? **$\sim 1\text{EB}$**

Human brain: 80B neurons



$\sim 1000\text{cm}^3$

How much image data is 1000cm^3 ? **$\sim 1000\text{ EB}$**
(6nm x 6nm x 40nm)

Reconstructed data will be much larger:

- Segmentation labels for each voxel
 - 4x voxel data
- 3D Mesh
- Skeleton

The structures are expected to be used to seed simulations to study flow in neurotransmitters, in better modeling the brain, among others.