Fast and scalable SSAM

PNU Colab

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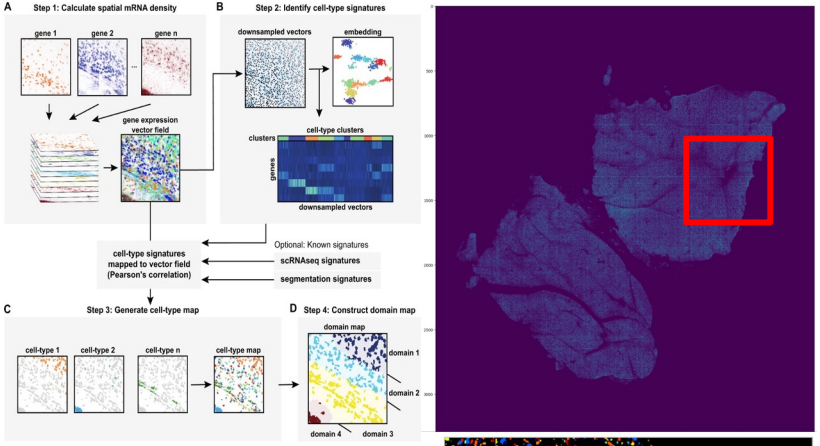
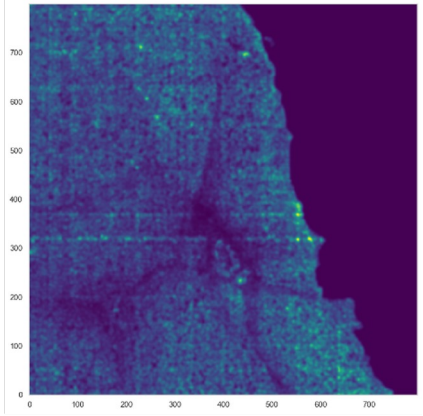
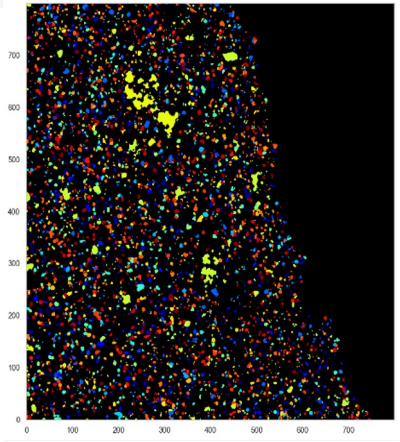
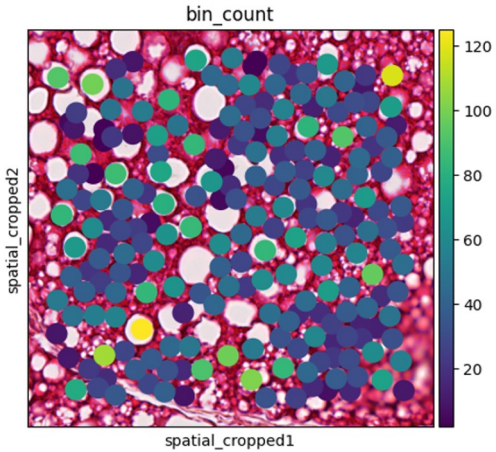
What we have done so far

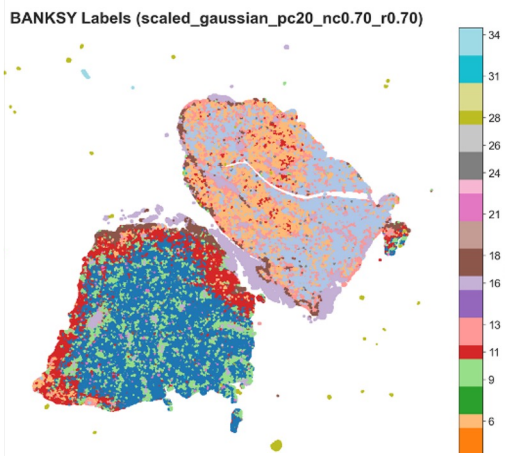






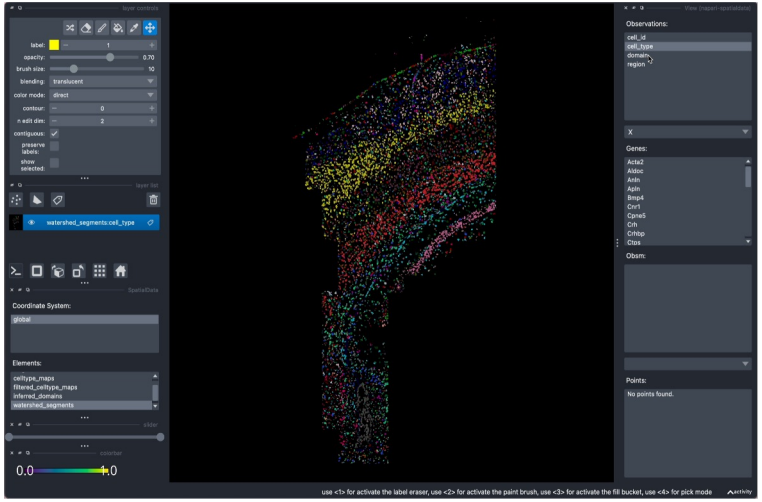
- Visium HD Analysis with SSAM
  - SSAM: incompatible with Visium HD
  - Upgrade SSAM
    - more scalable & works better than SOTA
    - Bin2cell/Banksy: supports Visium HD

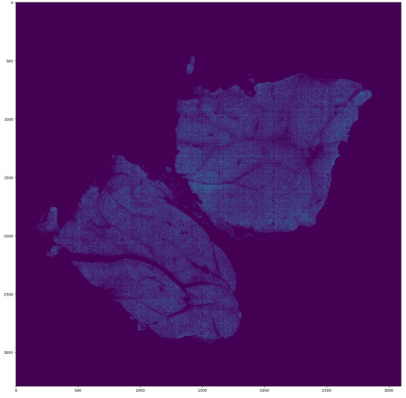


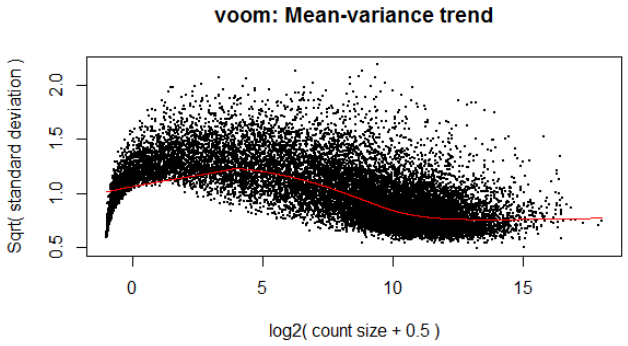


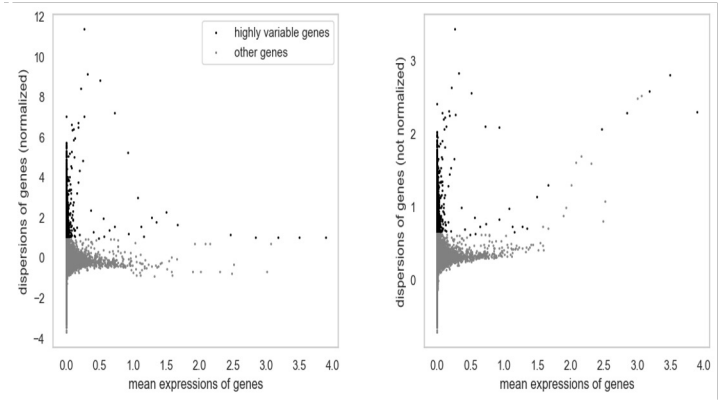
What we have done so far – Concern points

- High variable gene
  - Variance stabilization challenges
  - mean-variance trends
- Large data causing slow analysis
  - GPU: Pytorch, PyCUDA
- Scanpy: faster
  - SSAM + Scanpy + SpatialData



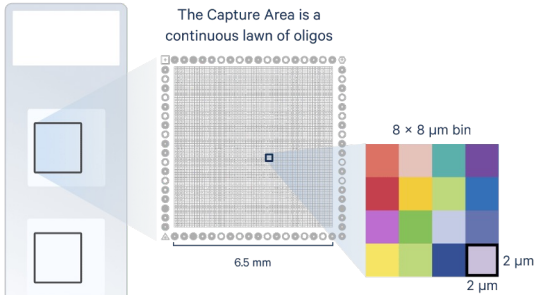


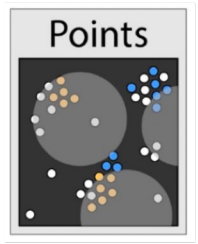




What we are gonna do

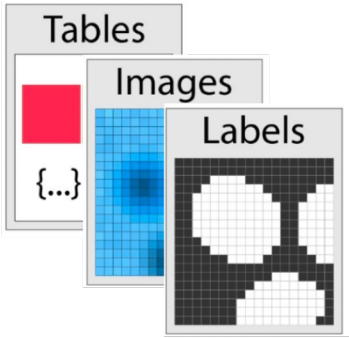
1. Fast and scalable SSAM for visiumHD
2. SSAM + Scanpy + SpatialData





Raw Data

scanpy + SSAM + PyTorch



SSAMDataset