Jules Berman

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Portfolio: https://julesberman.github.io

Education

B.S. in Computer Science, New York University.   Spring 2017   GPA: 3.7
M.S. in Scientific Computing, New York University.   Spring 2022   GPA: 3.9

Experience

Flatiron Institute   *Current*

Research Analyst, Center for Computational Neuroscience

- Wrote original research paper on the use of point cloud representations of neurons for improving existing segmentations.

- Assisted lab members and PhD students in the use of high-performance GPU clusters. Included workflow improvements, code optimization, and implementations of multi-threading.

- Organized lab group meetings. Scheduled weekly speakers on topics in machine learning and computational neuroscience.

Summer Research Assistant, Center for Computational Neuroscience   *2021*

- Assisted in the development of an automated pipeline for neuron segmentation. Components included data augmentation, UNet affinity map prediction, watershed, and agglomeration.

- Researched the possible use of 3D Vision Transformers to replace UNets as backbone of our segmentation pipeline.

Bloomberg LP   *2017–2020*

Software Engineer, Global Infrastructure Team

- Maintained the full stack of a company-wide infrastructure procurement web application.

- Designed and built a multi-threaded backend validation engine which processed terabytes data, ensuring it adhered to a complex set of rules regarding data consistency and integrity.

- Built a machine learning model which used historical data to project future infrastructure usage.

Papers

Point Cloud Representations for Neuron Stitching   *Submitted, MIDL 2022*
J. Berman, J. Wu, D.B. Chklovskii.

Projects

Review: Deep Learning for PDEs

Review paper surveying current methods for using Deep Learning to solve PDEs.

Meta-Embeddings for Unsupervised Protein Models

Research paper showing that unsupervised protein models learn complementary embeddings.

Skills

Tech: Python, NumPy, Pytorch, Matlab, Chebfun, SLURM, Javascript

Life: Piano, Oil painting, Long distance running