JOHNATHAN JIA

Data scientist interested in development and implementation of new deep learning algorithms

PROFESSIONAL EXPERIENCE

2023 — **Data Analyst**
Baylor College of Medicine — Houston, TX

- Developed pipeline in Python and R for mapping, QC, and downstream analysis of scRNA-seq data collected by collaborators from brain organoids treated with radiation
- Provided exploratory analysis of scRNA-seq data gathered from presbyomic nasal tissue for collaborators
- Constructed pipeline in Python for QC, denoising, and analyzing image mass cytometry data of TNBC cells provided by collaborators

2022 | 2020 — **Graduate Research Assistant**
UTHSC Houston Graduate School of Biomedical Sciences — Houston, TX

- Developed an ensemble convolutional neural network with self-attention architecture using the TensorFlow and Keras libraries for identifying high confidence transcription factor targets for HTLV-1. Available on Github.
- Performed pseudotime analysis to infer which transcription factor programs drive the trajectory of COVID-19 infection severity using the R packages Seurat and Slingshot in conjunction with DrivAER, a machine learning model developed in Python.

2020 | 2019 — **Research Assistant I**
MD Anderson Cancer Center — Houston, TX

- Collected and prepared patient tissue samples for storage and downstream analysis. Wrote scRNA-seq pipelines for lab members to use.

EDUCATION

2022 | 2020 — **M.S. in Quantitative Sciences**
UTHSC Houston Graduate School of Biomedical Sciences — Houston, TX

- Thesis: DeepHTLV: a deep learning model for detecting and elucidating human T-cell leukemia virus type 1 integration sites

2018 | 2015 — **M.D.**
UTHSC Houston McGovern School of Medicine — Houston, TX

2015 | 2011 — **B.S. in Biology, B.A. in Chemistry**
Emory University — Atlanta, GA

- Thesis: Investigating heterogeneity in the dynamics of virus and immune response

AWARDS

2022 — **Best Quantitative Sciences Program Seminar Presentation**
UTHSC Houston Graduate School of Biomedical Sciences — Houston, TX

2022 — **First Prize Poster Presentation**
UTHSC Houston Graduate School of Biomedical Sciences — Houston, TX

2016 — **Rheumatology Research Foundation Research Award**
UTHSC Houston McGovern School of Medicine — Houston, TX

CONTACT INFO

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832-361-0388

SKILLS

- R
- Python
- Bash
- Jupyter
- LaTex
- Tensorflow
- Pytorch
- Git
- Docker

PUBLICATIONS

Deep learning for detecting and elucidating human T-cell leukemia virus type 1 integration sites (Cell Patterns 2023)
H.Xu and **J.Jia**, H.Jeong,Z.Z

Delineating COVID-19 immunological features using single-cell RNA sequencing (The Innovation 2022)
W.Liu, **J.Jia**, Y.Dai, W.Chen, G.Pei,Q.Yan, Z.Zhao

Investigating Cellular Trajectories in the Severity of COVID-19 and Their Transcriptional Programs Using Machine Learning Approaches (Genes 2021)
H.Jeong and **J.Jia**, Y.Dai, L.Simon, Z.Zhao

What Controls the Acute Viral Infection Following Yellow Fever Vaccination? (Bulletin of Mathematical Biology 2016)
J.Moore, H.Ahmed, **J.Jia**, R.Akondy, R.Ahmed, R.Antia

*This resume was made with the R package **pagedown**.*
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