

JOHNATHAN JIA

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

PROFESSIONAL EXPERIENCE

2023

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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
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2020

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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
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2019

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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
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2020

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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
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2015

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M.D.

UTHSC Houston McGovern School of Medicine

Houston, TX

2015
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2011

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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

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Best Quantitative Sciences Program Seminar Presentation

UTHSC Houston Graduate School of Biomedical Sciences

Houston, TX

2022

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First Prize Poster Presentation

UTHSC Houston Graduate School of Biomedical Sciences

Houston, TX

2016

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Rheumatology Research Foundation Research Award

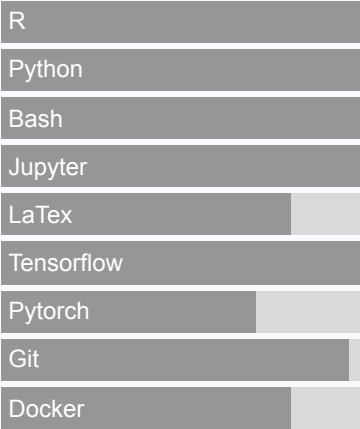
UTHSC Houston McGovern School of Medicine

Houston, TX

CONTACT INFO

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☎ 832-361-0388

SKILLS



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