Zixia Meng

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EDUCATION

M.S.	Electrical Engineering	University at Buffalo	2022	GPA:3.78
M.S.	Computer Science	New Jersey Institute of Technology	2020	GPA:3.83

SKILLS

Programming: Java | Python | R | HTML | MySQL | JavaScript | CSS | MATLAB

Tools/Framework: Scikit-learn | TensorFlow | Keras | PyTorch | Git

PROJECTS

CNN-based Controller for Multi-DoF Prosthetic Wrist

- Gather electrical activities from surface Electromyography sensors as time-series data.
- Design an CNN-based model for prosthetic joints control, which integrating classification and regression that is based on real-world ADL data featuring high time efficiency. Robust case study is performed.

Model-based Deep Siamese Auto-encoder for Clustering Single Cell RNA-seq Data

- Design a deep auto-encoder (**Python, PyTorch**) for clustering single-cell RNA-seq Data.
- Improve the model by introducing Siamese network which keeps local similarities while encoding data..
- Train models on HPC provided by XSEDE COMET. Achieve 10% improvement of the clustering accuracy and provide clusters with more reasonable biological explanations.

Web App Development - Yelp-like campgrounds searching and sharing

- Develop an interactive Yelp-like web page (**JavaScript**, **CSS**, **HTML**, **AJAX**) for users to search for camp grounds and share experience when visiting.
- Use **RESTful** to handle **HTTP** requests and responses.
- Build basic registration/login/logout flow from scratch using **Bcrypt**.
- Implement Geo-coding the locations with **Mapbox** and build cluster map showing those locations.
- Set up **Mongo** and deploy to **Heroku** for testing.

Professional Appointment

- Data Scientist in Dr. Xu's lab at the University of Pennsylvania, U.S., 06/2020 – 01/2021.
- Research assistant at Institute of Engineering & Medicine Interdisciplinary Studies, School of Mechanical Engineering, Xi'an Jiaotong University, China, 09/2016– 06/2018.
- Research assistant at Institute of Precision Engineering, School of Mechanical Engineering, Xi'an Jiaotong University, China, 09/2016 – 01/2017.

Journal Publications

1. Mohamed Fazil, **Meng Zixia**, Kang Jiyeon, **2022** CNN-based Controller for Multi-DoF Prosthetic Wrist using sEMG Data during Activities of Daily Living. **BioRob 2022.**
2. **Meng Zixia**, Wei Zhi, **2020** Model-based Deep Siamese Auto-encoder for Clustering Single Cell RNA-seq Data. **Master Thesis, New Jersey Institute of Technology.**
3. **Meng Zixia,** Tian Tian, Wei Zhi, **2021** Model-based Deep Siamese Auto-encoder for Clustering Single Cell RNA-seq Data. **Nucleic Acids Research**. (Paper under preparation).
3. Liu Fei, Liu Dan, **Meng Zixia**, Liang Lin, Xu Guanghua, Zhang Qing, **2017** Sampling Strategy and Error Estimation for Evaluation of Quadratic Form Error Using Cartesian Coordinate Data. **ET Science, Measurement & Technology.**