CHENYI(EVA) LYU

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EDUCATION

New York University *Sep. 2021 – May 2023(Expected)*
M.Sc. in Data Science

Johns Hopkins University *Aug. 2019 – May 2021*
M.Sc. in Biomedical Engineering (GPA 3.78/4.00)

Beijing University of Chemical Technology *Sep. 2015 – June. 2019*
B.Eng. in Bioengineering (GPA 86.29/100)

SUNY-College of Environmental Science and Forestry *Sep. 2018 – Jun. 2019*
B.S. in Bioprocess Engineering (3+1 Program, GPA 3.72/4.00)

Core Courses
Algorithms, Probability and Statistics, Data Mining, Data Science for Biomedical Engineering, System Pharmacology and Personalized Medicine, Computational Stem Cell Biology, Linear Algebra, Differential Equations

WORK EXPERIENCE

Johns Hopkins School of Medicine, Garza Lab Dec. 2019 – May 2021
Data Analyst - Research Assistant

- Generated **170GB** single cell gene expression data with **Cell Ranger** in **Linux** and customized scRNAseq analysis pipeline for the identified **15,046** high quality cells by working with bench scientists, which managed to support comparison between two different experiment conditions.
- Characterized **12** types of cells and proposed a cell development model with bioinformatics algorithms in **R**, which uncovered solid biological evidences for the contribution of one stem cell population to skin regeneration during expansion.
- Work was presented in Society of Investigative Dermatology annual meeting. **One manuscript submitted** (*Xue, Y., **Lyu, C.**, Ee, A. V., Kiemen, A., Wirtz, D., Garza, L. A., & Reddy, S. (2021). 635 Mechanical stretch mobilizes Lgr6+ stem cells to drive skin growth.*).

PROJECTS

Course Enrollment System Apr. 2021

- Developed an asynchronous front-end page with **React.js** using **Axios** and **Ajax** in **Python**, implemented functions including registration, authentication, and course enrollment.
- Designed **RESTful API** and models with **Django REST Framework**, and worked on the **MySQL** DB migration project to achieve the independency between the front/back end and database system.
- Implemented **AWS** cloud deployment solutions using AWS S3, ECR and RDS with **Docker** and **Kubernetes**.

Covid-19 Tracker Mar. 2021

- Constructed a web page with Google Maps **JavaScript API** and Material UI in **React**, which enables dynamic display of country/state/county data by zoom level.
- Utilized **Ajax** to send and retrieve the data from database to realize real-time automatic completion and display on the front-end google map.

Scheme Interpreter Nov. 2020

- Developed an interpreter in **Python** for a subset of **Scheme** language.
- Handled Scheme evaluation procedures such as mathematical, quote operation as well as higher level operations such as lambda expression and user defined procedures with Python.

BearMap Dec. 2020

- Implemented back-end server for a web map application of Berkeley City in **Java**, which supports scrolling, zooming, dragging according to user query.
- Designed A* serach algorithm and data structure for shortest route navigation and autocompletion system.

SKILLS

Programming Languages	Python · Java · R · JavaScript · Matlab · Scheme · MySQL · CSS/HTML
Tools and Framework	Linux · Genomics(scRNAseq) · React · Django · Git · Docker · AWS · Ajax