Chenyi (Eva) Lyu

605 Pavonia Ave, Jersey City, NJ 07306
(+1) 315-679-9661 lyuchenyia@gmail.com chenyilyu evaeva Eva's portfolio

Education

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

Johns Hopkins University *Aug. 2019 – May 2021*
M.Sc. in Biomedical Engineering, GPA 3.78/4.00 *Baltimore, MD*

Beijing University of Chemical Technology *Sep. 2015 – June. 2019*
B.Eng. in Bioengineering, People's Academic Scholarship (top 5%), GPA 86.29/100 *Beijing, China*

SUNY-College of Environmental Science and Forestry *Sep. 2018 – Jun. 2019*
B.S. in Bioprocess Engineering, ESF International Scholarship (top 5%), GPA 3.72/4.00 *Syracuse, NY*

Work Experience

Johns Hopkins School of Medicine *Dec. 2019 – May 2021*
Data Analyst - Research Assistant *Baltimore, MD*

- Worked with bench scientists to build customized scRNAseq analysis pipeline and image process workflow in **R** and **ImageJ**, which managed to support comparisons among multiple experiment conditions.
- Generated **170GB** single cell gene expression data with **Cell Ranger** in **Linux** using cloud computing system. Cleaned and classified **15k** high quality cell with Seurat in **R** and **Python** to reveal more biological information for team.
- Explored and evaluated bioinformatics algorithms to compute cell trajectory. Trained and proposed a cell development model with GAM. Improved model scalability from 1k genes to **10k** genes.
- Work uncovered solid biological evidences for the contribution of one stem cell population to skin regeneration during expansion, and was selected as ePoster talk in Society of Investigative Dermatology annual meeting.

Projects

Course Enrollment System *Apr. 2021*

- Developed an asynchronous front-end page to render course information with **Axios** and **Ajax** in **React.js**, **HTML** and **CSS**, which supports essential functions such as user registration, authentication, and course enrollment/withdraw.
- Designed backend **RESTful API** and server based on **MTV** pattern and **SOLID** principle in **Django REST Framework**. Used **JWT** to identify and manage authorized user. Tested the server thoroughly with **Postman**.
- Worked on **MySQL** DB migration project to achieve 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 *Feb. 2021*

- Constructed a web page with **Google Maps API** and **Material UI** in **React**, which supports dynamic display of up-to-date country/state/county COVID-19 data according to zoom level.
- Performed data aggregation on the queried data in **JavaScript**. Utilized **Ajax** to send/retrieve data from database, which reduced page response time and realized real-time data automatic completion on the front-end google map.

Note Web App *Dec. 2020*

- Built a note-taking web app in **React.js**, **HTML** and **CSS**. Configured the front-end to render home page and note input page with **Bootstrap** and **React Router**.
- Implemented **RESTful API** in **Spring Boot** in **Java** to handle HTTP requests for presenting and modifying note.
- Used **Spring Data JPA** to connect back-end with database. Designed the database using **PostgreSQL** technique.
- Deployed the React and Spring Boot application on **Heroku** to create live URL.

Video Streaming Website *Nov. 2020*

- Build a video streaming website with **JavaScript**, **HTML**, and **CSS**, which supports movie display and preview.
- Implemented functions such as user registration, account updating and video progress tracking with **MySQL** database and **PHP**. Used **Ajax** with **JQuery** to support live search, which reduced web page response time by **20%**.
- Integrated payment system with **Paypal SDK** to handle subscription features for paid accounts.

Skills

Languages: Python, Java, R, JavaScript, Matlab, PHP, Scheme, MySQL, CSS/HTML
Tools/Frameworks: Linux, React, Django, Spring Boot, Git, Docker, AWS, JUnit, Heroku, Genomics(scRNAseq)

Publication

- 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. (submitted)