

LUNA HUAYUE LU

Graduate Student in Computer Science and Engineering

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SUMMARY

Computer Science Graduate with expertise in full-stack development, machine learning, data analysis and data visualization, cloud computing with AWS and DevOps practices. Specialized in MERN Stack (MongoDB, Express.js, React and Node.js), RESTful API development, database interactions using Sequelize ORM with PostgreSQL, AWS services such as Amplify, Lambda, API Gateway, and DynamoDB for building scalable web applications. Proven ability in building user-centric interfaces and robust backend systems. Additionally, possesses a solid foundation in Machine Learning, data analysis and data visualization.

SKILLS

- **Programming Languages:** Python (Proficient), Ruby, Java, JavaScript, C, lisp, Matlab
- **Web Development:** HTML, CSS, Ruby on Rails, MERN Stack (MongoDB, Express.js, React, Node.js) Full Stack Development, REST API Development, MySQL, NoSQL, PostgreSQL, AWS Amplify, Lambda, API Gateway, DynamoDB
- **Development & Cloud Tools:** Git, AWS, Linux, Windows, MacOS, Jenkins, Docker, CI/CD, DevOps
- **Expertise:** Web Development, Machine Learning(TensorFlow, Keras, PyTorch), Data Analysis, Networked Embedded Systems

EDUCATION

Graduate Student in Computer Science and Engineering

University of Connecticut (UConn) | Storrs, CT, USA

Expected Graduation: **Dec 2024**

GPA: **3.78/4.0**

Relevant Courses: Machine Learning, Advanced Algorithms, Data Analysis, Big Data Analytics, Networked Embedded Systems

Non-Degree Student in Computer Science and Engineering

University of Connecticut (UConn) | Storrs, CT, USA

Sep. 2021 - May. 2022

GPA: **3.60/4.0**

Relevant Courses: Algorithms, Data Structure, Programming, Data Visualization

PROJECTS

AuthenticationSeq Backend | Node.js, Express.js, PostgreSQL, Sequelize, Google Cloud Platform(GCP), JWT

- Designed and implemented **RESTful APIs** for user authentication and authorization using Node.js and Express.js.
- Managed complex database interactions using **Sequelize ORM** with **PostgreSQL**.
- Integrated Google Cloud Storage for robust handling file uploads.
- **Implemented advanced features** like API pagination and dynamic user friendships, enabling users to interact and navigate through large data sets effectively.
- Engineered JWT-based authorization to secure endpoints and maintain user sessions, ensuring a secure user environment.

Full Stack Book Store Application | ReactJS, NodeJS, Express, MongoDB, RESTful API, UI/UX

- Designed and developed a dynamic user interface using **ReactJS** with modern features.
- Built a robust backend API with **NodeJS** and **Express**, featuring **RESTful API** endpoints.
- Employed **MongoDB** for efficient data storage and retrieval.
- Implemented **user authentication** and authorization platform access.

Machine Learning Based Flower Image Recognition with Data Balancing | PyTorch, ResNet18, TTI

- Engineered an advanced image classification model utilizing **zero-shot text-to-image synthesis** to address data imbalance in the Flowers102 dataset.
- Implemented machine learning algorithms and **TTI model** integration to augment rare flower classes, significantly boosting data uniformity.
- Achieved a notable increase in **model accuracy from 62.25% to 67.25%** through the synthesized image augmentation approach.

Movie Discovery App using React JS | React JS, TMDB API, UI/UX

- Developed a user-friendly movie discovery app with **React JS**, integrating **TMDB API** for real-time movie searches and data presentation.

- Utilized **React hooks** for state management and functional components for dynamic rendering, enhancing the **UI/UX**.
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PUBLICATIONS

- Xinran Zhou and **Huayue Lu**. "Improved On-Device Hyperdimensional-Computing-Based Image Segmentation." 2023 IEEE the 3rd International Conference on Intelligent Technology and Embedded Systems(ICITES).