

Xiaoliang Zhu

Nashville, TN | (615) 705-4235 | xiaoliang.zhu@vanderbilt.edu

EDUCATION

Vanderbilt University

B.A. in Computer Science and Mathematics

GPA: 4.0/4.0

Nashville, TN

Expected May 2023

- **Relevant Coursework:** Data Structure and Algo, Object-Oriented Design, Machine Learning, Operating System, Database

WORK EXPERIENCE

Vanderbilt University MINT Lab

Undergraduate Lab Researcher

Nashville, TN

Sep 2021 – Present

- Research to alleviate the catastrophic forgetting phenomenon of neural networks in continual learning
- Study techniques like Elastic Weight Consolidation and implement packages using PyTorch and NumPy
- Experiment improved packages with sequential tasks using data from random functions and the MNIST database, where the number of tasks with performance maintained is increased by about 20%

Tencent

Software Engineer Intern

Remote (Shenzhen, China)

Sep 2021 – Present

- Implement Android components, unit testing tools, and Android Jetpack with a Tencent mentor
- Perform the demand analysis for a CRM platform and compose a detailed software architecture design
- Develop an Android application with TensorFlow Lite which can recognize human skeletons and actions

Shanghai Hubu Tech Co, Ltd

Software Engineer Intern

Shanghai, China

May 2021 – Aug 2021

- Crawled, transformed, and loaded over 200K+ tag and media data from 10 stock websites into the database
- Designed a high-level footage-selecting system and conducted a demanded analysis with UML graphs
- Developed RESTful APIs for the business website using Java Spring and Elastic Search engine
- Implemented Python automatic pipelines to convert advertisement scripts into tag groups and search the most related footages from the storage, and encapsulated those pipelines with Flask
- Created an automatable application using the wxPython library to quickly download and classify footage according to the given script and scene ids, which decreased the material collecting time by over 90%

Hirebeat

Machine Learning Engineer Intern

Remote (New York)

Jan 2021 – Mar 2021

- Conducted data mining and cleaning on 3000+ job-describing documents to enrich the NLP dataset
- Extracted keyword phrases through constructing Word2Vec models, fine-tuning the text-summarization model T-5, and employing existing models like TopicRank
- Visualized word classification by conducting different clustering techniques, like K-means and Hierarchical clustering, with Matplotlib, and optimized model performances with silhouette analysis
- Showcased models and clustering results to the team, improving the keyword-recognizing accuracy of the Resume Optimization product by about 5%

PROJECT EXPERIENCE

Online Administration System Project

May 2021 – Jan 2022

- Accomplished a full-stack project of an employee management platform with Role-Based Access Control
- Operated MySQL database with MyBatis-Plus and saved menu data into Redis to accelerate initialization
- Developed RESTful APIs using Spring Boot and achieved JWT authentication using Spring Security
- Constructed the front-end architecture using Vue and Axios, which supports online chat through WebSocket

Hackathon Image Encryption Project

Oct 2021 – Nov 2021

- Designed an Image Encryption website that converts images into Voyager 1 Golden Records and vice versa
- Applied the Elliptic-curve cryptography algorithm to build the encryption pipeline with Python Image module
- Deployed the pipeline using Flask, and engineered a web interface to receive users' private keys and images

SKILLS

Technical Skills: Java, Python (NumPy, Scikit-learn, TensorFlow), R, SQL (MySQL), C++, LaTeX, AMPL

Database & Framework: Spring Boot, Spring MVC, Vue, Database, Spark, MapReduce

Machine Learning: Regression, SVM, K-Means Clustering, GMM, PCA, CNN, RNN, GAN