Xiaoliang(Toby) Zhu

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EDUCATION

Vanderbilt University   **Nashville, TN**
B.A. in Mathematics and Economics, minor in Computer Science, GPA: 4.0/4.0   Expected May 2023
- **Relevant Coursework:** Machine Learning, Algorithm, Intermediate Software Design, Discrete Structure

WORK EXPERIENCE

Tencent   **Remote** (**Shenzhen, China**)
Android Developer Intern   Aug 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 a CRM application using AChartEngine and optimize the system performance with ExecutorService

Shanghai Hubu Tech Co, Ltd   **Shanghai, China**
Software Engineer Intern   May 2021 - Aug 2021
- Crawled and transformed over 200K+ tag and media data from 10 stock websites and updated SQL database
- Designed high-level footage-selecting system and conducted a demanded analysis with UML graphs
- Built and deployed RESTful APIs and Elastic Search for the business website using Java Spring framework
- Implemented Python automatic pipelines to convert advertisement scripts into tag groups and search the most related footages from the storage, and encapsulated those pipelines using Flask
- Developed 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   **Remote** (**New York**)
Machine Learning Engineer Intern   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, finetuning the GloVe model and the text-summarization model T-5, and employing existing models like BERT and 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

Back-stage Managing system Developing   June 2021 - Present
- Build a user admin system with a staff module and a department module, each containing the function of collecting statistics and editing role information, using Spring-boot and Vue
- Achieve the login function with a verification code authentication using Spring Security
- Create an online chat function using Spring-boot and WebSocket with data saving at local storages

Python Machine Learning Projects   May 2021 – Present
- Research on techniques like EWC using pyTorch to solve the catastrophic forgetting in neural networks
- Constructed a CNN flower classifier with TensorFlow by applying models AlexNet and VGGNet
- Finetuned a Cat & Dog Image Classifier on the MobileNet V2 model using Keras with an accuracy of 93%

Python Game Application   Jan 2021 - May 2021
- Designed an aircraft battle game with a bonus system using the Pygame framework
- Developed a roguelike game with an inventory system and a path-finding system using the libtcod library
- Implemented both games with a main menu and the function of saving and reloading

SKILLS & INTERESTS

Technical Skills: Python (Scikit-learn, TensorFlow), R, SQL (MySQL), Java (Spring), C++, LaTeX, AMPL
Machine Learning: Regression, SVM, K-Means Clustering, Dimensionality Reduction, CNN, RNN