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EDUCATION
Duke Kunshan University (DKU) / Duke University (Duke) Dual Degree Undergraduate Program May 2023
B.S. in Data Science (by DKU) Kunshan, China
B.S. in Interdisciplinary Studies (Data Science, by Duke)
- Cumulative GPA: 3.74/4.0 Major GPA: 3.91/4.0
- Selected as Teaching Assistant for COMPSCI 201 (Data Structures) and ECON 101 (Economic Principles)
- Key Courses: Data Structures <u>A</u> Algorithms and Databases <u>A</u> Machine Learning <u>A</u> Cloud Computing <u>A+</u>

RESEARCH EXPERIENCE
HCI Blockchain Research Group, DKU Mar 2022 − Present
Supervisors: Prof. Xin Tong (Asst. Prof. of Computation and Design) and Prof. Luyao Zhang (Asst. Prof. of Economics)
- Performed SQL to query 16k+ transaction records and architected a database of CryptoPunks NFT using MongoDB.
- Developed a dashboard containing 5 interactive visualizations about CryptoPunks transaction using Plotly and Dash.
- Crawled and conducted sentimental analysis on 100+ million tweets on the topic of ethical issues on NFT.

Interdisciplinary Data Analysis Project, DKU Jan 2022 − Jul 2022
Supervisor: Prof. Peng Sun (Asst. Prof. of Data Science)
- Built a GAN-based model using PyTorch to achieve font style transfer between arbitrary languages in a few-shot learning fashion, which generates the most plausible images comparing to the existing methods.
- Designed a novel language complexity-aware skip connection to adaptively adjust the structural information to be preserved.

AlphaFold Research Group, DKU Aug 2021 − Jun 2022
Supervisor: Prof. Huansheng Cao (Asst. Prof. of Environmental Science)
- Developed a Graph Neural Network (GNN) based network using PyTorch to predict catalytic turnover numbers in Escherichia coli, which achieved a increase in R^2 of 14% than the existing model.
- Achieved dimensionality reduction of 1.7TB of output data from AlphaFold 2 by implementing Convolutional Autoencoders.

Institute of Computing Technology, Chinese Academy of Sciences Jul 2021 − Aug 2021
Supervisor: Prof. Shuhui Wang (Professor)
- Enhanced the CycleGAN's performance on image style transfer by developing a novel category loss for generating images with better visual quality.
- Presented the proposed model to the program supervisor with an oral presentation and a technical written report.

PUBLICATIONS & CONFERENCES
- **Zhang, Y.**, Man, J., & Sun, P. (2022). *MF-Net: A Novel Few-Shot Stylized Multilingual Font Generation Method.* (Accepted by ACM Multimedia 2022)
- **Zhang, Y.**, Chen, Z., Zhang, L., & Tong, X. (2022). *Visualizing Non-Fungible Token Ethics: A Case Study On CryptoPunks*. (Accepted by ChinaVis 2022)
- Chen, Z., Liu, Y., **Zhang, Y.**, & Zhang, L. (2022). *Blockchain Network Analysis: A Comparative Studies of Decentralized Banks*. (Submitted to ACM DeFi 2022)

PROFESSIONAL EXPERIENCE
SciEcon CIC (an NPO in the UK focusing on blockchain research) Oct 2021 − Present
Creativity Chair & Research Affiliate
- Built static websites for SciEcon Research Incubator Program and deployed the websites on Inter Planetary File System (IPFS).
- Developed and executed brand communication strategy across all platforms (digital multimedia, marketing/sales materials).

COMPSCI 201 Teaching Team, DKU Jan 2021 − Mar 2021
Teaching Assistant
- Developed 10+ Java programming exercises covering topics including OOP and data structures.
- Lectured 120 min-lab sessions and hold office hours to answer 30+ students' questions.

Office of China Enrollment Management, DKU Sep 2020 − Jun 2021
Student Assistant
- Utilized Python and Excel to document, clean and analyze graduation results from 80 high schools in China.

SKILLS

- **Programming Languages:** Python, Java, C++, MATLAB, JavaScript, HTML, CSS
- **Machine Learning:**
  - **Tools:** PyTorch, XGBoost, scikit-learn, keras
  - **Methods:** Basic Machine Learning (linear regression, decision tree, SVM), Computer Vision (CNN, GAN, YOLO series), Graph Deep Learning (GNN, GAT), Others (VAE)
- **Data Science:**
  - Data Acquisition: MySQL, Hadoop, Spark
  - Data Scrubbing: Pandas, NumPy
  - Modeling: Machine Learning,
  - Visualization: Plotly, Tableau, D3.js
- **Miscellaneous Technologies:** Linux, Git, Conda, Slurm, Docker, ArgoCD, Flask, OOP, APIs, Excel
- **Mathematics Fundamentals:** linear algebra, calculus, statistics, numerical analysis
- **Digital Design:** Adobe Creative Cloud Suite (PS, PR, AI, LR), DaVinci Resolve

LEADERSHIP & SERVICE

DKU Home, DKU Aug 2020 − Dec 2020
Co-Chair of DKU Home (Kunshan High-Tech Zone)
- Scheduled and orchestrated weekly volunteering activities with another co-chair.
- Hired weekly volunteers for volunteering activities at DKU Home (High-Tech Zone).

Crazy Chinese Club, DKU Sep 2019 − Sep 2020
Co-Founder & Marketing Chair
- Co-founded and operated the Crazy Chinese club with 300+ students joining that helps international students from 20+ countries learn Mandarin and experience Chinese culture.
- Managed branding of Crazy Chinese to promote club activities by designing related materials (e.g. posters)

Student Media Center, DKU Oct 2019 − Aug 2020
Member of the Creative Design Committee
- Participated in the co-branding between Duke Kunshan University and Suzhou Museum.
- Assisted to edit the 2020 Duke Kunshan University orientation welcome videos.

ADDITIONAL INFORMATION

Languages: Chinese Mandarin (native), English (GRE 326)
Honors and Awards:
- Meritorious Winner (2021 MCM/ICM Contest in Modeling)
- Silver Medal (iGEM 2021)
- Top 100 Team Mainland Chine (L'Oréal 2021 Brandstorm)

Interests: photography, music, digital arts, ultimate frisbee