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EDUCATION

Fujian Normal University   09/2018-06/2022

- Bachelor of Engineering
- International College of Chinese Studies   Major: Digital Media Technology
- Overall GPA: 85.1 / 100   Overall Rank: 1/59
- Major Courses: *C Language Programming, Object-oriented Programming, Introduction to Digital Media Technology, Date Structure, Database Application, Network and Communication Programming, Operating Systems, Windows Program Design, Computer Graphics, Game Design and Implementation, Drawing Graphics Engine, 2D Animation, 3D animation, Game Design and Script, Software Engineering, Game Planning and Project Management, 3D animation Script and Shooting Design*, *3D Engine Basic Programming, Next Generation Model Design, Web Design and Development, Mobile Software Development, Advanced Game Engine Programming, Advanced Action and Special Effects*, etc.

RESEARCH PROJECT

Research on Location Service-Oriented Trajectory Prediction in Traffic Network   10/2020-Present

Instructor: Assoc Prof. WANG Xing   Institute: Digital Fujian Institute of Transportation Big Data

- Implemented machine learning algorithm (CNNs, RNNs, DBNs) as well as data mining algorithm to establish testing framework, detect outliers in urban traffic and solve problems of vehicle trajectory prediction
- Applied strong programming competency in Python, MATLAB, and SPSS as well as efficient data processing skills to test and evaluate more than 7 million traffic data of Fujian province
- Results were under review by *Neurocomputing* in August and invention patent is scheduled to be published
- Concurrent results on traffic anomaly detection have been published in *IET Intelligent Transport Systems*

Research on GANs-based Line Art Colorization   07/2021-09/2021

Instructor: Assoc Prof. MARK Vogelsberger   Institute: Massachusetts Institute of Technology

- Learned and practiced various machine learning algorithms and frameworks
- Extracted the lines of anime images using methods such as XDoG, VGG net, etc.
- Improved the existing coloring method by modifying the structure of GANs, using different representations of images and U-Net structure
- Results were compiled into a research article and prepared for submission to a conference

Application of Data Mining in Urban Traffic   07/2020-08/2020

Instructor: Assoc Prof. LIU Xingwu   Institute: Institute of Computing Technology, Chinese Academy of Sciences

- Managed and developed a team of students from different university to establish project scope, terms of reference, timeline, and budget considerations
- Manipulated Python lib and deep learning framework (Keras, PyTorch, Tensorflow) to track and analyze more than 300,000 taxi GPS traffic data in Beijing
- Spearheaded in-depth analysis of data to identify and forecast urban traffic congestion sections using algorithm analysis (Clustering, Dimensionality reduction)

PUBLICATION

(Major Revise) Ruihao Zeng & Xing Wang, Faliang Huang, Ao Lei, Xinxin Li, *Traffic Congestion Prediction Model based on pre-trained Spatial-Transformer,* Neurocomputing

(Patent Acceptance) Fujian Normal University, Xing Wang, **Ruihao Zeng**, Ao Lei, Xinxin Li, *A Highly Efficient Method for Outlier Detection in Urban Traffic*, National Intellectual Property Office

(Published) Xing Wang & **Ruihao Zeng**, Fumin Zou, Faliang Huang, Biao Jin, *A Highly Efficient Framework for Outlier Detection in Urban Traffic Flow,* IET Intelligent Transport Systems

(Published) **Ruihao Zeng**, Ao Lei, Guangyi He, *Explore the Musical Changemakers based on Music Influence,* 2021 International Conference on Computer Technology and Media Convergence Design (CTMCD 2021)

(Published) Chenghao Wang, Jingsi Chen, **Ruihao Zeng**, *An Analysis and forecasts of online product sales based on BP Neural Network and Pearson Coefficient,* IEEE International Conference on Artificial Intelligence and Computer Applications (ICAICA)

(Published) **Ruihao Zeng**, *Hybrid Malware Detection System Based on Big Data,* China New Communications

INTERNSHIP EXPERIENCE

Xiamen YesSoft Technology Co., Ltd   **07/2019-08/2019**

Intern in Internet of Things (IOT) Product Development

- Responsible for sending and receiving the module programming of the hospital monitoring device
- Collaborated with team members to optimize the capacity of receiving and sending modules
- Utilized C++ language for Arduino programming

COMMUNITY SERVICES

Fujian Normal University   Volunteer   **11/2018-12/2018**

- Responsible on-site reporting and photography of the freshmen basketball game
- Receive the "Best News Report" honor

AWARD & HONOR

Brown Medal of HuBMAP of Kaggle   **09/2021**

First Prize of "Challenge Cup" University Student Extracurricular Academic Science and Technology Competition of Communist Youth League Committee of Fujian Normal University   **06/2021**

Charge in National College Students' Innovation and Entrepreneurship Training Program (Innovated Training Project) of Ministry of Education of the People's Republic of China   **06/2021**

Honorable Mention of Interdisciplinary Contest in Modeling of Consortium of Mathematics and Its Applications (COMAP)   **05/2021**

First Prize of the 10th Cross-Strait Information Service Innovation Competition and the 14th Computer Software Design Competition of Fujian Provincial Department of Science and Technology, Fujian Provincial Department of Education, etc.   **12/2020**

Second Prize of the National Finals of the 8th National College Student Digital Media Technology Works and Creativity Competition of Chinese Association of Artificial Intelligence (CAAI)   **11/2020**

Third Prize of "Huashu Cup" National College Students Mathematical Contest in Modeling of the Chinese Society for Futures Studies   **08/2020**

First Prize of the 10th MathorCup College Mathematical Modeling Challenge Undergraduate Group of Chinese Society of Optimization, Overall Planning and Economic Mathematics   **06/2020**

SKILLS & INTERESTS

- Statistical Computing Software: SPSS, STATA, MATLAB
- Computer Programming: Python, C++, C, C#, JavaScript, HTML, CSS
- Foreign Language: Fluent in English
- Interests: Photography, Video production, Special effects production, etc.