Jie Zhu

📞 +1 202-758-8919   ✉ jiezhu@gwu.edu

EDUCATION

George Washington University   Sep 2021

Computer Science Master   Washington, DC

- GPA: 4.0/4.0 (Present)
- the best animation winner of The Festival of Animation 2021

Northeastern University   Aug 2016 - Jun 2020

Information Security Bachelor   Shenyang, China

- GPA: 3.1/5.0 (Top 30%)
- Third-tier Merit Scholarship Recipient

RESEARCH EXPERIENCES

Fairness HRI in restaurant environment   Mar 2022 - Present

Research intern Cognitive Robotics and AI Lab (CRAI), Kent State University   Advisor: Rui Liu

- Proposed 4 fairness issues to evaluate robot bias during interaction with people in the restaurant environment.
- Design two models for robot bias detection and bias mitigation. Define the reward function according to the fairness issues.
- Building an environment and robot simulation using the MuJoCo platform.

Video question answering (VQA)   Feb 2022 - Present

Research intern ACTION Lab, Rochester Institute of Technology   Advisor: Yu Kong

- Proposed a method of Category and Signal encoding to improve Temporal question answering.
- Proposed an optimized model structure of HQGA to concatenate question representation and hierarchical video features with a 1% improvement.

PROFESSIONAL EXPERIENCES

Research of Institute of Tsinghua, Pearl River Delta   Sep 2020 - Sep 2021

Assistant Engineer(Intern) Artificial Intelligence Center   Guangzhou, China

- Collect and classify voice dataset. Design the MySQL database of 600k+ voice data.
- Develop Voice Conversion project and optimize the training process of AUTOVC model. Apply a patent of "*A method of Text To Speech based on Deep Learning*" during this work.
- Participate in TTS-relative work, including preprocessing dataset, training and deploying model, etc. Propose a method of using phoneme as the training dataset. Optimizing preprocessing with multi-processing to reduce the time from 20 hours to an hour.
- Programming voice evaluation module which could score different TTS model about voice quality and pronunciation.
- Apply about 15 relative patents and two of them are the main applicant.

Seeking AI Co. Ltd.   Dec 2019 - Apr 2020

R&D intern R&D   Guangzhou, China

- Participate in the industrial defect detection and annotate 50k+ data in total.
- Design the size detection algorithm of Project Patinda to detect the defect products.
- Participate in code maintenance, and learn the process of code development.

Beijing SimpleEdu Technology Co. Ltd.   May 2019 - Jul 2019

Intern Software Engineer   Tianjin, China

- Participated in the enterprise network design; used eNSP to build a network with a 100-user capacity.
- Led other interns to conduct the penetration test on the company's information system, found out the vulnerabilities and repaired them by fixing the code bugs, closing vulnerability ports, installing system patches, etc.
- Built the company's web, FTP and DNS servers; used the Kali VMware to conduct port scanning, vulnerability scanning, penetration testing, database collision test, etc. on the enterprise platform; reinforced the security of the target system.

PROJECT EXPERIENCES

Implementation of Intellectual Property Management System Base on Blockchain   Mar 2020 - Jun 2020

Author   Shenyang, China

- Design the system structure by analyzing the demand of the market.
- Use Flask to build the website, which includes IP register, IP trade and electrical evidence generation functions.

Fake News Information Analysis and Visualization Platform   Jun 2018 - Jan 2019

Teammate   Shenyang, China

- Checked and cleansed data, calculated similarities and extracted keywords for 10k+ copies of texts using ELMO model.
- Detected duplicates between new data and the database, with an accuracy rate of 92% in the screening test.

Single and Dual Encryption Program Design   Sep 2018 - Oct 2018

Leader   Shenyang,China

- Worked with teammates on the implementation of classical password, RC4, DES, RSA and MD5 passwords.
- The encryption and decryption of the two hosts are respectively encrypted and decrypted through socket programming.
- Participated in the design of a socket programming client, with more than 600 lines of code, accounting for about 50% of the total.

Tech Stack

- **Python:** Three-year programming experience, familiar with PyTorch and OpenGL framework