Kenan LI (Connor)

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EDUCATION

Southern University of Science and Technology(SUSTech) *Sep 2019 - Present*
M.S. in Electronic Science & Technology
North China Electric Power University(NCEPU) *Sep 2015 - Jun 2019*
B.S. in Electrical Engineering & its Automation
Overall GPA: 87/100

EXPERIENCE

Kaggle Data Science Competition (BirdCLEF 2022) February 2022 - May 2022
Individual Project *Shenzhen, SUSTech*

Designed and implemented an classification algorithm use densenet121, to classify the bird sound in correct category.

- Processed the bird sound using FFT spectrum and MFCC(Mel Frequency Cepstrum Coefficient).
- Designed the deep learning network based on densenet121 to classify the bird sound in time wise and frequency wise.
- Designed the weight in the loss function to solve the data imbalance problem.

Laser microphone and signal optimization algorithm July 2020 - September 2021
Group member, supervised by Prof.Hong Xiaoping *Shenzhen, SUSTech*

Designed and implemented a laser microphone and a filter algorithm based on deep learning.

- Cooperative developed a laser microphone can avoid sound noise perfectly based on the light channel, that hoped to solve the cocktail party problem completely.
- Collected 600 sentences using the laser microphone with 3s interval for each.
- Conceived and developed a neural network, trained on MFCC and time domain of the corpus with around 600 sentences, to complete the information missing vibration signal received on throat skin since it is a partial speaking channel.

Target plant detection algorithm February 2020 - June 2020
Group member, supervised by Prof.Hong Xiaoping *Shenzhen, SUSTech*

Made a module of a robot system aiming at making a SLAM in the farmland, detecting the target crop plants and judge its health degree.

- Collected 100 pictures of the maize plant.
- Zooming and rotation were used to expand the data set size.
- VGG-16 neural network is transformed and trained on the data set.
- Achieved accuracy rate to 87% when detected the target plant among grasses.

State evaluation of generator rotor based on machine learning January 2019 - June 2019
Individual project, supervised by Prof.Li Junqing *Baoding, NCEPU*

Applied machine learning algorithms with industrial sensor data to make a health state evaluation model about the rotor part of the synchronous generator.

- Analyzed the sensor data sampled from the power plant with visualization.
- Processed the data set using standardized methods.

- Applied empirical theory analysis and principal component analysis to reduce the variables dimension. And selected key variables to represent the health state of the target combined with the heat conduction physical theory and the sensor positions.
- Designed the LSTM(Long and Short Term Memory) neural network based on the time series characteristics of the data set.
- The abnormal state range was delineated in several intervals, centering on the predicted value by the model from historical data. It can be set according to the operation experience in the field.

TEACHING & LEADERSHIP EXPERIENCE

SDM242 Analog and System Design July 2020 - January 2021
Teaching Asistent *Shenzhen, SUSTech*

16 weeks conpulsory courses for 33 Undergraduate students.

- Helped professor prepare the lecture needs.
- Made the lab plan, SOP(Standard Operating Procedure) and materials, tutored and answered questions during the lab.
- Collected the assignments, checked their grades and distributed the grades to the students.
- Collaborated to write a grading system program to make the progress easily.

SUSTech Da Vinci Challenge Camp July - Augest 2019
Coach *Shenzhen, SUSTech*

Coached the undergraduate students in 5 people group in new engineering education camp for around 40 days.

- Led campers to nursing home to find out the pain point in the olders life, recorded the interview and did the analysis.
- Helped design a product prototype based on the pain point analysis.
- Made a demo product accorinding to the prototype model.
- Helped them did the final presentation to show their idea and product.

Aircraft Club October 2016 - October 2017
Group Member, Group Leader *Baoding, NCEPU*

Memeber first and group leader in the end. Aimed at making a fixed-wing aircraft with simple materials like balsa, carbon fiber tube plastic and so on.

- Made sure the airplane can leverage as more water weight as it can and drop the water bottle to the target position. More weight and less displacement from targrt position would get more scores.
- Design and implemented the aircraft using from zero to one, created the communication channel with experienced team in other universities, lead the team to join the competition on behalf of the university in Zhenjiang.
- Although failed in the end. But the experience from a group member to make the group members orgnized for a same goal benefited me a lot.

HONORS & AWARDS

Honors & Scholarship

- 3rd prize, Excellent Teaching Assistant 2021
- Scholarship, Southern University of Science and Technology 2019
- Excellent Coach 2019
- Outstanding graduates in NCEPU 2019
- Siyuan Electric Power Scholarship 2018
- Advanced Individual of Innovation and Entrepreneurship 2017, 2018
- 2nd Prize, Scholarship; Merit Student; Outstanding League Cadres in NCEPU 2016, 2017, 2018

Competition Awards

- Bronze medal(11%), Kaggle Data Science Competition: BirdCLEF 2022 2022
- National Class, Rated Excellent, College students' innovation and entrepreneurship training program 2018
- Provincial 2nd prize, China Undergraduate Mathematical Contest in Modelling 2018
- National 3rd Prize, 2017 China Robot Competition (FIRA Simulation Group, a competition about robot soccer) 2017
- Provincial 3rd prize, The 2nd Hebei provincial college students "Internet Plus": Innervation and Entrepreneurship Competition 2017
- National 2nd Prize, Bridge+ (National Youth Business Simulation Contest) 2016

TECHNICAL STRENGTHS

Computer Languages	C++, Python, R, Java, Javascript, html, C#, SQL
Databases	Microsoft SQL, Redis, MongoDB
Tools	Matlab, Tensorflow, Pytorch, Anaconda, Pycharm, VSCode, Latex, Synopsys

HOBBIES

Erhu National level five;
Fitness and basketball enthusiasts;