

Qingqiao HU

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EDUCATION

Southern University of Science and Technology (SUSTech), Shenzhen, China 09/2017 - 06/2021

- Degree: Bachelor of Engineering
- Major: Computer Science; Overall GPA: 3.66/4.0
- Core Coursework: Calculus, Linear Algebra, Data Structure, Algorithm Design, Probability and Statistics, Digital Design, Computer Organization, Database System Principle, Discrete Math, Artificial Intelligence, Computer Network, Object-oriented Analysis and Design, Operating System, Software Engineering, Signal and System Deep Learning
- Honors & Awards: 2nd Place Academic Scholarship in 2018; 3rd Place Academic Scholarship in 2020

RESEARCH EXPERIENCE

Research Assistant, Prof. Zhang's Lab, Southern University of Science and Technology 07/2021 - 07/2022

- Conducted research related to human activity classification using FMCW radar under the supervision of Prof. Jin Zhang
- Implemented a few-shot learning model with limited amount of radar data to classify the unseen classes
- Used a cross-domain technique with a few collected data to adapt the model to a new environment

Research Assistant, CVIP Lab, Southern University of Science and Technology 09/2020 - 06/2021

- Conducted research related to multi-rater uncertainty in medical image segmentation under the supervision of Prof. Jianguo Zhang
- Implemented a model of shared-encoder-multiple-decoder structure to capture the uncertainty of multiple annotations from different raters
- Utilized the data from QUBIQ challenge to demonstrate that our model performed much better than other SOTA models
- Summarized the research results and completed the bachelor thesis paper under supervision of Prof. Zhang
- Modified the research results and ready to submit our work to IEEE Transaction on Medical Imaging

Research Assistant, ARoS Lab, North Carolina State University 07/2020 - 08/2020

- Completed an online research supervised by Dr. Edgar Lobaton from NCSU
- Implemented an end-to-end system based on Yolo (You Only Look Once) version 4 and Deep SORT (Simple Online and Realtime Track) which could detect and track people shown in thermal videos and improve both the recall and the precision by 10% in comparison with previous Yolo-version-3 model
- Fixed a bug (issue id: No.163) in a popular repository named tensorflow-yolov4-tflite, which made Yolo-tiny run on Android
- Won the Honorable Mention prize in our virtual online presentation to the NCSU community

Research Assistant, SCAI Lab, Southern University of Science and Technology 06/2019 - 08/2020

- Did research on prediction of the future traffic flow speed in a city based on the history traffic flow data
- Cleaned plenty of raw traffic flow data crawled from the internet and tried to find the model that could fit in this scenario

- Re-implemented a graph convolutional network with sequence to sequence feature that could both take advantage of temporal and spacial information and the model to achieve 5 mean absolute percentage error using open-source dataset released by the California government
- Obtained over 90 marks in the final report of Innovation Project

Participant, Institute of Automation, Chinese Academy of Sciences Summer Camp 07/2019 - 08/2019

- Acquired a great deal of knowledge in deep learning and computer vision, such as analysis of the color histogram of a photo and the method to train a deep CNN
- Conducted a project related to human iris recognition using open-source human iris data
- Implemented an iris recognition model using Efficient Net so as to achieve performance equivalent to the state-of-art model with less training cost
- Cooperated with other team members to write the final paper

PROJECTS

Group Leader, Online Text Sharing Editing, SUSTech 09/2019 - 12/2019

- Implemented an online sharing text-editing website as the course project in Object-Oriented Analysis and Design class
- Designed and implemented the server end by using the Django server-end framework and the Operation Transfer Algorithm for multiple user editing
- Improved my design skills, practical abilities along with teamwork skills

Independent Researcher, Simple CPU Implementation, SUSTech 05/2018 - 07/2018

- Implemented a single core CPU alone with low clock speed by using Verilog, Hardware Description Language (HDL) on a FPGA chip
- Synthesized successfully all parts, such as ALU and code fetching components
- Verified the function of the CPU by writing MISP code to control the LED lights on the developing board

Group Leader, Canteen Comment Wechat Application, SUSTech 05/2018 - 07/2018

- Implemented a Wechat mini program for campus canteen comments as the course project in the Database System Principle class
- Divided work into small pieces, assigned tasks to team members and kept the pace of development
- Crawled data from the Internet and wrote SQL queries to insert the data into the database
- Used a light-weight python server-end framework, Bottle and implemented API to connect the front end with the server end

PUBLICATION

Qingqiao Hu, Siyang Yin, Huiyang Ni, Yisiyuan Huang, *An End to End Deep Neural Network for Iris Recognition*, Procedia Computer Science, Volume 174, 2020, Pages 505-517, ISSN 1877-0509

TEACHING EXPERIENCE

Teaching Assistant, Southern University of Science and Technology 09/2020 - 01/2021

- Assisted with Dr. Yuqun Zhang's course "Object-Oriented Analysis and Design"
- Engaged in curriculum design such as designing the database online judge system project for students, supervised their progress during the whole semester, and credited their final work at the end of semester
- Be responsible for designing and correcting homework

VOLUNTEER & OTHER EXPERIENCE

Participant, Education First Summer School, Washington

01/2018 - 07/2018

- Took some English courses in the EF International School, and obtained a C1 level certification
- Greatly improved my English skills in speaking and listening

Volunteer, The 31st China Olympic Chemistry Competition, Shenzhen

10/2017

- Provided services for high school competitors coming to SUSTech

ADDITIONAL INFORMATION

- Computer Skills: Java, Python, C/C++, Verilog HDL, Matlab, Kotlin, Latex, Pytorch
- Language Skills: Chinese Mandarin (native), English (fluent)
- Interests: Long-distance Running, Listening to Music, Watching Sci-Fi Movies, Writing Sci-Fi Stories