

Xuele Chen

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Education

Shanghai Jiao Tong University

Sept 2018-June 2021

- M.Sc. in Instrument Science and Technology (GPA: 3.55/4.0)
- Advisor: Prof. Cunyue Lu

Technical University of Berlin - Double Degree Program

Oct 2017-Sept 2019

- M.Sc. in Computer Engineering (GPA: 1.5/1.0)
- Advisor: Prof. Begum Demir

Shanghai Jiao Tong University

Sept 2014-June 2018

- B.Eng. in Measurement Control Technology and Instruments (GPA: 88.43/100; Ranking:1/51)

Publications

Attentional Dilated Convolution Neural Network for Nuclei Segmentation in Histopathology Images

- Chao Yi, **Xuele Chen**, Lingwei Quan, and Cunyue Lu.
- *2020 Chinese Automation Congress (CAC 2020)*.

Progressive Attentional Learning for Underwater Image Super-Resolution

- **Xuele Chen**, Shiqing Wei, Chao Yi, Lingwei Quan, and Cunyue Lu.
- *The 13th International Conference on Intelligent Robotics and Applications (ICIRA 2020)*.

Towards Safe and Socially Compliant Map-less Navigation by Leveraging Prior Demonstrations

- Shiqing Wei, **Xuele Chen**, Xiaoyuan Zhang, and Chenkun Qi.
- *The 13th International Conference on Intelligent Robotics and Applications (ICIRA 2020)*.

An End-to-End Adversarial Hashing Method for Unsupervised Multispectral Remote Sensing Image Retrieval

- **Xuele Chen**, and Cunyue Lu.
- *The 27th IEEE International Conference on Image Processing (ICIP 2020)*.

Research Experiences

Perception and Control of Underwater Robots

Shanghai, China

Master Thesis at Shanghai Jiao Tong University

Dec 2019 - Present

- Developed a new method for underwater image super-resolution to improve visual perception, which outperforms the state-of-the-arts.
- Tested PID-based and vision-based navigation of underwater robots in known and unknown environments. Conducted simulation experiments in ROS and UWSim.

NIR Image Colorization
VCIP 2020 Grand Challenge

Shanghai, China
Sept 2020 - Sept 2020

- Implemented a new image colorization network, which is composed of a DenseNet as the encoder and an RCAN as the decoder. Achieved an average angular error of 5.90. (Unluckily, our team didn't enter top 5.)

GANs for Content-based Retrieval of Multispectral Images
Master Thesis at Technical University of Berlin

Berlin, Germany
Oct 2018 - Sept 2019

- Implemented ACGAN and Conditional DCGAN for remote sensing image generation. Improved supervised hashing for image retrieval with generated images.
- Proposed a novel unsupervised hashing method combining multiple loss functions, which outperforms the state-of-the-art methods.

Machine Learning in Metrology
Internship at PTB Berlin

Berlin, Germany
May 2019 - Aug 2019

- Applied basic RNN and LSTM methods to electric grid analysis and achieved accurate grid state estimation.
- Implemented fully connected neural network and autoencoder methods for image spectra reconstruction.

Deep Learning Based Real-Time Face Detection
Undergraduate Research at Shanghai Jiao Tong University

Shanghai, China
Apr 2017 - Sept 2017

- Implemented MTCNN, which composes of P-Net, R-Net and O-Net, to achieve accurate face detection.
- Wrote Python codes to analyze video frames and detect faces in real time.

Tactile Sensor for Soft Robot
Undergraduate Research at Shanghai Jiao Tong University

Shanghai, China
Apr 2016 - Apr 2017

- Designed the structure of the sensor, which consists of two optical fiber bundles, a cylinder-shaped probe head and 14 tactile sensing tips.
- Wrote C++ codes to measure the intensity of light reflected from different tips using image processing. Calibrated the sensor with the force gauge.

Awards and Honors

- **Excellence Scholarship**(Top 5 in the department), SJTU. 2020
- **E+H Scholarship**(Top 5 in the department), Endress+Hauser AG & SJTU. 2017
- **National Scholarship**(Top 1 in the department), Ministry of Education of P.R.China. 2016
- **Yousheng Weighing Apparatus Scholarship**(Top 5 in the department), Yousheng Weighing Apparatus Co., Ltd & SJTU. 2015

Skills

- **Programming:** Python, MATLAB, C/C++
- **Tools:** Tensorflow, Pytorch, Keras, ROS, OpenCV, LaTeX, Git
- **Software:** Simulink, LabVIEW

Additional

- **Volunteer Experiences:** Shanghai International Marathon 2014,2015
- **Standardized Tests:** TOEFL: 104 (Reading 30 Listening 26 Speaking 22 Writing 26)