Xuelei Chen

SJTU-X70, 800 Dongchuan Rd, Shanghai 200240, China

chenxuelei@hotmail.com • xueleichen.github.io

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 Very good)
- Advisor: Prof. Begum Demir

Shanghai Jiao Tong University **Sept 2014-June 2018**

- B.Eng. in Measurement Control Technology and Instruments (GPA: 88.4/10; Rank:1/51)

Publications

Attentional Dilated Convolution Neural Network for Nuclei Segmentation in Histopathology Images

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

Progressive Attentional Learning for Underwater Image Super-Resolution

- **Xuelei 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, **Xuelei 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

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

Research Experience

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.

GANs for Content-based Retrieval of Multispectral Images **Berlin, Germany**
Master Thesis at Technical University of Berlin *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-arts.

Machine Learning in Metrology **Berlin, Germany**
Internship at PTB Berlin *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 **Shanghai, China**
Undergraduate Research at Shanghai Jiao Tong University *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 **Shanghai, China**
Undergraduate Research at Shanghai Jiao Tong University *Sept 2016 – Apr 2017*

- Designed the structure of the sensor, which consists of two optical fiber bundles, 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

- **E+H Scholarship**, Endress+Hauser & Shanghai Jiao Tong University. 2017
- **National Scholarship**(Top 1 in the department), Ministry of Education of P.R.China. 2016

Skills

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

Additional

- **Standardized tests**: GRE: V153+Q170+AW3.5, TOEFL: 104(R30+L26+S22+W26)