Junru Wu

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Research Interests

Computer Vision, Machine Learning

Education

Tongji University, Shanghai, China **Sept. 2012 - July 2016**

B.Eng., Electronics and Information Engineering

- Thesis: *Pedestrian Detection with Machine Learning*
- Advisor: Prof. Shangzhi Xu
- GPA: 83.74/100
- Core Course:
  Fundamentals of Computers, C/C++ Programming, Software Technology, Computer Networks, Digital Electronic Technology, Embedded Systems

Publications

Yanyu Xu, Nianyi Li, **Junru Wu**, Jingyi Yu, and Shenghua Gao."Beyond Universal Saliency: Personalized Saliency Prediction with Multi-branch CNN" submitted to *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017.*

Research Experience

Research Assistant, Visual Computing Lab, ShanghaiTech Univeristy **Aug. 2016 - Now**

- **Personalized Saliency Prediction with Multi-branch CNN**

  - First to investigate the heterogeneous gaze patterns of individuals when viewing an identical scene.
  - Produced the first database of personalized saliency maps (PSMs).
  - Adopted a novel Multi-branch Convolutional Neural Network (CNN) to model personalized saliency map (PSM).

  Advisor: *Prof. Shenghua Gao, Prof. Jingyi Yu*

Undergraduate Research Assistant, Tongji Univeristy **Jan. 2016 - July 2016**

- **Pedestrian Detection with Machine Learning**

  - Combined pyramid histogram of oriented gradient (PHOG) features and support vector machine (SVM) with the histogram intersection kernel (HIK) to boost the effectiveness and efficiency of pedestrian detector.
  - Performed comperhensive experiments on INRIA Pedestrian Dataset and compared performance with state-of-the-art methods.

  Advisor: *Prof. Shangzhi Xu*

Student Innovation Training Program, Tongji Univeristy **June 2015 - June 2016**

- **Crowd tracking system on aerial platforms**

  - Developed a automate surveillance system that detect and track crowds based on video feeds captured by drones.
  - Employed background subtraction algorithm based on Gaussian mixture models to detect moving crowds.
  - Used Kalman filter with Expectation-maximization (EM) algorithm to track the crowds.

  Advisor: *Prof. Yuchuan Du*

Professional Experience

System Engineering Intern, Delphi Technical R&D Center **July 2015 - Sept. 2015**

- Used Altium Designer software to design PCB Layout for the Intergrated test bench of Body Control Module (BCM).
- Validate the functionality and reliability of test bench in simluation software.

  Supervisor: *Zhigang Yao, Engineering Group Manager*

Awards

- Student Innovation Training Program, First Prize, Tongji University — June 2016
- Mathematical Contest in Modeling (MCM), Honorable Mention — Feb. 2016
- China Undergraduate Mathematical Contest in Modeling (CUMCM), Third-class Prize — Sept. 2015
- Semester Scholarship, TU Darmstadt (DAAD) — Dec. 2014
- Academic Record Scholarship, Tongji University — Sept. 2013

Skills

Programming languages
- C, C++, Python, MATLAB, Shell script

Programming Tools
- Caffe, Matconvnet, OpenCV, LaTeX

EDA Tools
- Altium Designer, Protel, Multisim

Languages
- Chinese: Native
- English: Fluent
- German: Intermediate

Excurricular Acvtivities

Exchange Student, Technische Universitaet Darmstadt, Germany **Oct. 2014 - Feb. 2015**
- Team leader of the exchange students from Tongji, coordinated collective activity with Intercultural Team of Tutors (ITT).
- Attended Intensive Language Courses and Cultural Course at TU Darmstadt.

Student Member, Tongji University Students' Union **Sept. 2013 - Jan. 2015**
- Assisted in planning events includes "Top ten school singers" attracting over 500 guests.
- Assisted in running official accounts and web page for the Students' Union.

Student Volunteer, Xuhui Museum of Art, Shanghai **Sept. 2013 - July. 2014**
- Assisted in holding special events and the management of the museum.

References

Shenghua Gao

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ShanghaiTech Univeristy
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Shangzhi Xu

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