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XIAODAN HU

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EDUCATION

- **University of Waterloo| System Design Engineering (UW)** **Waterloo, Canada**
  Master of Applied Science, Vision and Image Proc. Lab, GPA: 90/100 (A+) *May 2017-Dec. 2018*
  Courses: SYDE780 Graphical Deep Learning, CS685 Machine Learning: Statistical and Computational Fdn., SYDE522 Machine Intelligence, SYDE675 Pattern Recognition, SYDE672 Statistical Image Proc.
- **New York University | Tandon School of Engineering (NYU)** **New York, USA**
  Master of Science, Computer Engineering, GPA: 3.53/4 *Sep.2015-Jan. 2017*
- **Beijing University of Posts and Telecommunications (BUPT)** **Beijing, China**
  Bachelor of Engineering, Telecommunication Eng., GPA: 87/100 (A) *Sep. 2011-July 2015*

PUBLICATIONS

- **Xiaodan Hu**, Paul Fieguth, and Alexander Wong, "ClearGAN: Fine-Grained Text to High-Resolution Image Generation", NTIRE Workshop at CVPR 2019, manuscript in prep.
- Zilong Zhong, Rene Bidart, **Xiaodan Hu**, "Spectral Semantic Segmentation Networks", ICCV 2019, manuscript in prep.
- **Xiaodan Hu**, Audrey Chung, Paul Fieguth, and Alexander Wong, "ProstateGAN: Mitigating Data Bias via Prostate Diffusion Imaging Synthesis with Generative Adversarial Networks," accepted as poster presentation at the Machine Learning for Health Workshop at NeurIPS 2018
- **Xiaodan Hu**, Mohamed A. Naiel, Zohreh Azimifar, Ibrahim Ben Daya, Mark Lamm, and Paul Fieguth, "Non-stationary Content-adaptive Projector Resolution Enhancement", U. S. Patent in process
- **Xiaodan Hu**, Mohamed A. Naiel, Zohreh Azimifar, Ibrahim Ben Daya, Mark Lamm, and Paul Fieguth, "Projector Resolution Enhancement Using a Non-stationary Content-adaptive Scheme", Journal of the Society for Information Display, manuscript in prep.
- **Xiaodan Hu**, Mohamed A. Naiel, Zohreh Azimifar, Mark Lamm, and Paul Fieguth, "Visual Enhancement of Moving Content in Projected Imagery", accepted as poster presentation at 2019 Society for Information Display Display Week Symposium
- **Xiaodan Hu**, Mohamed A. Naiel, Zohreh Azimifar, Ibrahim Ben Daya, Mark Lamm, and Paul Fieguth, "Text Enhancement in Projected Imagery", accepted as poster presentation at the Conf. on Vision and Imaging Systems 2018, published in Journal of Computational Vision and Imaging Systems
- **Xiaodan Hu**, Avery Ma, Ahmed Gawish, Mark Lamm, and Paul Fieguth, "Motion Detection in High-Resolution Enhancement", accepted as poster presentation at the Conference on Vision and Imaging Systems 2017, published in Journal of Computational Vision and Imaging Systems
- Shixiong Hu, He Jin, **Xiaodan Hu**, and Yuannan Long, "Application of modular approach in GIS-based hydrological modeling", accepted by 2014 22nd International Conference on Geoinformatics

RESEARCH EXPERIENCE

- **ProstateGAN:Mitigate Data Bias by Prostate Diffusion Imaging Synthesis** *Sep.-Oct. 2018* **UW**
  - Augment the prostate imaging datasets and increase the accuracy of prostate cancer classification by using conditional GAN to estimate the distribution of prostate images based on Gleason score.

- **ClearGAN: Fine-Grained Text to High Resolution Image Generation** *May 2018-now* **UW**
  - Upgrade perceptual quality of generated image by considering both contextual loss and perceptual loss, and increase the resolution of synthesis by a factor of 2
- **Text Enhancement in Projected Imagery** *May-Aug. 2018* **UW**
  - Enhance the visual quality of projected imagery by proposing a novel text enhancement scheme
- **Motion Estimation for High Resolution Enhancement** *May 2017-2018* **UW**
  - Improve spatial pyramid network (SPyNet) based on temporal convolutional network (TCN) for motion estimation of videos; improve optical flow motion estimation methods
- **Weight Quantization on Accuracy in Mobilenets** *Jan.-Apr. 2018* **UW**
  - Evaluate the trade-off between accuracy and model size using pre-trained Mobilenet networks
- **Digital Pathology Image Classification** *Jan.-Apr. 2018* **UW**
- **Feature Fusion for Different Face Recognition** *Sep.-Dec. 2017* **UW**
- **Real-Time Twitter Map of New York City** *Jan.-Apr. 2016* **NYU**

TEACHING EXPERIENCE

- **Teaching Assistant** - *BME 393 Digital Systems* *Jan.-Apr. 2019* **UW**
  - Run tutorials sessions. Evaluate assignments/reports, tutor student projects and hold office hours.

EMPLOYMENT EXPERIENCE

- **Research Engineer Intern** **Kitchener, Canada**
  Christie Digital Systems Inc. - Advanced Technologies Group *Mar. 2017-Apri. 2019*
  - Content-adaptive high-resolution enhancement using one/multiple low-resolution projector(s)
- **Software Engineer** **New York, USA**
  SnagTag Inc. *May-Aug. 2016*
  - Developed an app to integrate traditional clothing labels, and display virtualized information for customers triggered by picking up the product using NFC tags.

AWARDS AND CERTIFICATES

- Certificate of Completion of the Fundamentals of University Teaching Program, UW 2018
- Graduate Research Studentship (GRS), UW 2017-2019
- International Masters Student Award, UW 2017-2019
- Faculty of Engineering Graduate Scholarship, UW 2018
- Excellent top 1% bachelor thesis, 2015
- The Second Prize Scholarship for academic excellence, BUPT 2013-2014
- Merit Students Award, BUPT 2013
- The first prize in May Flowers chorus competition in BUPT, May 2013

EXTRACURRICULAR ACTIVITIES

- **Student Volunteers Association of BUPT -** *President* *2011- 2013,* **BUPT**
  - Responsible for the overall management. Organize community service & cooperate with local NPOs.

SKILLS

- Tools: Pytorch, Torch, TensorFlow, Keras, Sklearn, OpenCV, Amazon EC2, Google Cloud, MangoDB
- Languages: PYTHON, MATLAB, JAVA, Mysql, JavaScript, C++