

# LANTAO YU

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## CURRENT POSITION

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**Ph.D. Student at Rice University**

**May 2016 - Present**

Advisor: Michael T. Orchard

Department of Electrical and Computer Engineering

Thesis Title: **Location-Directed Complex-Valued Modeling for Image Processing**

## EDUCATION BACKGROUND

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**Rice University, Houston, TX**

**Aug. 2012 - Apr. 2016**

*Master of Science in Electrical and Computer Engineering*

GPA: 3.97/4.3

Advisor: Michael T. Orchard

Thesis: **Determining Accurate Locations of Edges in Natural Images:  
A Phase-based, Non-parametric Framework**

**Tianjin University, Tianjin, China**

**Sept. 2008 - July. 2012**

*Bachelor of Engineering in Measuring and Control Technology and Instrument (with honor)*

GPA: 3.83/4.0, Major GPA: 3.92/4.0

Thesis: **Biomimetic Compound Eye Sensitivity and Object Detection**

## INDUSTRY EXPERIENCE

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**Mitsubishi Electric Research Laboratories, Cambridge, MA**

**May 2019 - Aug. 2019**

*Research Scientist*

Mentor: Dehong Liu

Collaborators: Hassan Mansour, Petros T. Boufounos, and Yanting Ma

Project: **Multi-Band Image Fusion**

## PROGRAMMING SKILLS

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MATLAB, Python, C/C++

## PUBLICATION LIST/CONFERENCE

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- [1] Lantao Yu and Michael T. Orchard, “When Spatially-Variant Filtering Meets Low-Rank Regularization: Exploiting Non-Local Similarity for Single Image Interpolation”, 2019 26th IEEE International Conference on Image Processing (ICIP). (**Oral, state-of-the-art performance**)
- [2] Lantao Yu and Michael T. Orchard, “Accurate Edge Location Identification Based on Location-directed Image Modeling”, 2019 26th IEEE International Conference on Image Processing (ICIP).
- [3] Lantao Yu and Michael T. Orchard, “Single Image Interpolation Exploiting Semi-Local Similarity”, 2019 44th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 1722-1726. (**Oral, state-of-the-art performance**)
- [4] Lantao Yu and Michael T. Orchard, “Location-directed Image Modeling and its Application to Image Interpolation”, 2018 25th IEEE International Conference on Image Processing (ICIP), 2192-2196.
- [5] Lantao Yu, Dehong Liu, Hassan Mansour, Petros T. Boufounos, and Yanting Ma, “Blind Multi-spectral Image Pan-sharpening”, 2020 45th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). (**Oral, state-of-the-art performance**)

## **PUBLICATION LIST/JOURNAL(TO BE SUBMITTED)**

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- [1] Lantao Yu and Michael T. Orchard, “Manifold-Inspired Single Image Interpolation”, IEEE Transactions on Image Processing.
- [2] Lantao Yu and Michael T. Orchard, “Complex-Valued Image Modeling and its Applications to Image Compression”, IEEE Transactions on Image Processing.
- [3] Lantao Yu, Dehong Liu, Hassan Mansour, Petros T. Boufounos, and Yanting Ma, “Blind Multi-spectral Image Pan-sharpening”, IEEE Transactions on Geoscience and Remote Sensing.

## **ACADEMIC SERVICE**

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IEEE Transactions on Image Processing, Reviewer  
IEEE Transactions on Multimedia, Reviewer

## **TALK**

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“Location-directed Complex-Valued Modeling for Image Processing”, Athens, Greece, Oct. 2018.

“When Spatially-Variant Filtering Meets Low-Rank Regularization: Exploiting Non-Local Similarity for Single Image Interpolation”, Shenzhen, Chengdu, Xi’An, Sept. 2019.

## **AWARDS**

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National Scholarship (China’s Most Prestigious Award for Undergraduate Students)	<b>Sept. 2011</b>
Rice Graduate Fellowship	<b>Aug. 2012 - May. 2013</b>
Rice Engineering Alumni Travel Award	<b>Feb. 2019, Sept. 2019</b>
IEEE Signal Processing Society Travel Award (33/839)	<b>Oct. 2018</b>
Honorable Mention in Mathematical Contest in Modeling	<b>Feb. 2012</b>

## **COURSES**

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<b>Digital Signal Processing</b>	<b>A+</b>
<b>Statistical Signal Processing</b>	<b>A</b>
<b>Advanced Digital Signal Processing:</b>	<b>A</b>
<b>Computational Photography</b>	<b>A</b>
<b>Data Mining &amp; Statistical Learning</b>	<b>B+</b>
<b>Introduction to Advanced VLSI Design</b>	<b>A</b>
<b>Introduction to Random Processes</b>	<b>A+</b>
<b>Introduction to Information Theory</b>	<b>A</b>
<b>Introduction to Linear Programming</b>	<b>A-</b>
<b>Advanced Topics in Optimization</b>	<b>A</b>