

Huikai Wu

PHD STUDENT

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Education

CASIA (Institute of Automation, Chinese Academy of Sciences)

Beijing, China

PHD IN COMPUTER VISION AND DEEP LEARNING

Sep. 2015 - Present

- GPA: 3.67/4

NJU (Nanjing University)

Nanjing, China

B.S. IN SOFTWARE ENGINEERING

Sep. 2011 - Jun. 2015

- GPA: 3.87/4 Rank: 5/257

Research

FastFCN: Rethinking Dilated Convolution in the Backbone for Semantic Segmentation

Mar. 2019

PROJECT WEBSITE

A novel framework for faster, lighter and better semantic segmentation with the proposed Joint Pyramid Upsampling (JPU).

SparseMask: Differentiable Connectivity Learning for Dense Image Prediction

Sep. 2018

PROJECT WEBSITE (ICCV 2019)

Automatically design the network architecture for dense image prediction tasks, achieving better fusion of multi-scale feature maps.

Fast A3RL: Aesthetics-Aware Adversarial Reinforcement Learning for Image Cropping

Sep. 2018

PAPER (IEEE TRANSACTIONS ON IMAGE PROCESSING (VOLUME: 28 , ISSUE: 10 , OCT. 2019))

An algorithm for image auto-cropping with deep reinforcement learning.

Fast End-to-End Trainable Guided Filter

Nov. 2017

PROJECT WEBSITE (CVPR 2018)

A universal CNN module for constructing faster, lighter and better dense prediction networks.

A2-RL: Aesthetics Aware Reinforcement Learning for Image Cropping

Sep. 2017

PROJECT WEBSITE (CVPR 2018)

An algorithm for image auto-cropping with deep reinforcement learning.

GP-GAN: Towards Realistic High-Resolution Image Blending

Mar. 2017

PROJECT WEBSITE (ACMMM 2019, ORAL)

An algorithm for image blending with GANs.

CNN-CUT: A Weakly Supervised Way for Image Segmentation

Jun. 2016

COURSE PROJECT

An algorithm for saliency object segmentation by combining a pretrained network on ImageNet and Grab Cut.

Deep Active Learning

May. 2015

B.S. THESIS PAPER

Train a CNN with comparable accuracy using less than 10% examples selected by active learning.

Project

DeepJS

Apr. 2019

PROJECT WEBSITE

Online demos for my research on image processing and computer vision based on deep learning.

Face Swap

Jan. 2018

PROJECT WEBSITE

Swap face between two photos with Python 3, OpenCV and dlib.

MSC: A Dataset for Macro-Management in StarCraft II

Sep. 2017

PROJECT WEBSITE

A dataset for macro-management in StarCraft II based on PySC2.

Chainer implementation of Pix2Pix

Mar. 2017

PROJECT WEBSITE

Chainer implementation of *Image-to-Image Translation Using Conditional Adversarial Networks*

Chainer version of neural-style and fast-neural-style

Mar. 2017

PROJECT WEBSITE

Chainer implementation of *A Neural Algorithm of Artistic Style* and *Perceptual Losses for Real-Time Style Transfer and Super-Resolution*

Chainer implementation of realismCNN

Mar. 2017

PROJECT WEBSITE

Chainer implementation of realismCNN proposed in *Learning a Discriminative Model for the Perception of Realism in Composite Images*

RoboWaiter: A Robot for guest registering

Jan. 2014

RIGHT ID: 201410500366.5

A robot for guest registering by face recognition and speech recognition.

Fast image inpainting application on Android

Jan. 2014

PUBLISHED

An Android application for image inpainting and object removal with 2x speed-up.

Honors & Awards

INTERNATIONAL

2017 **4th Place**, StarCraft Competition in AIIDE 2017, beat Facebook's team.

DOMESTIC

2016 **1st Place**, CCF Big Data Competition: Movie Box Prediction.

Work Experience

Preferred Networks

Tokyo, Japan

INTERNATIONAL INTERN

July. 2018 - Oct. 2018

- Website: <https://www.preferred-networks.jp/en/>
- Neural Architecture Search for Pixel-level Image Understanding

Palmwin Information Technology

Nanjing, China

RESEARCHER

Aug. 2015 - Oct. 2015

- Website: <http://www.chatgame.me/en/>
- Write a survey about SLAM and AR.

NLPR (National Laboratory of Pattern Recognition)

Beijing, China

RESEARCHER

Dec. 2014 - Apr. 2015

- Website: <http://www.nlpr.ia.ac.cn/nlpren/EN/volumn/home.shtml>
- Design and implement a car recognition system with 95% accuracy.