

# TAKEHIKO OHKAWA

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## RESEARCH INTERESTS

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Computer Vision, Deep Learning and Machine Learning  
(Deep Generative Models, Reinforcement Learning, Visual Forecasting, and First-Person Vision)

## EDUCATION

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**The University of Tokyo (UTokyo)** *April 2020 -*  
M.A.S. in Graduate School of Interdisciplinary Information Studies  
Advisor: Yoichi Sato, Jun Rekimoto

**Tokyo Institute of Technology (TokyoTech)** *April 2017 - March 2020*  
B.E. in Computer Science (for 3 years the fastest record)  
GPA: 3.93/4.00  
Ranked 1st out of 4 early graduates in class.  
Thesis: *Augmented Cyclic Consistency Regularization for Unpaired Image-to-Image Translation*  
Advisor: Nakamasa Inoue

## PROJECTS

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**cvpaper.challenge, AIST** *February 2019 - Present*  
A student researcher of cvpaper.challenge, which is a comprehensive survey and collaborative research project in the field of computer vision and pattern recognition, principally investigated by Dr.Hirokatsu Kataoka in the National Institute of Advanced Industrial Science and Technology (AIST). A paper "Augmented Cyclic Consistency Regularization for Unpaired Image-to-Image Translation" is published.

**DGM Spring Seminar, Matsuo Lab, UTokyo** *March 2020 - April 2020*  
Researched and implemented several algorithms in deep generative models (DGM), including GAN, VAE, Flow, and Energy-based model, advised by Prof.Yutaka Matsuo.

**Toxicity Prediction, Sekijima Lab, Tokyo Tech** *May 2019 - August 2019*  
Conducted a research project for toxicity prediction using deep learning advised by Prof.Masakazu Sekijima. I designed graph convolutional neural networks for analyzing the structure of chemical compounds and the toxicity.

**Speech & Vision, Shinoda Lab, Tokyo Tech** *February 2019 - October 2019*  
Researched on deep generative models for graphic use, advised by Prof.Koichi Shinoda and Prof.Nakamasa Inoue. Moreover, I participated in group reading for speech recognition and computer vision. I made a presentation for stabilization techniques for GANs.

**Alpha"Othello" Zero** *October 2018 - January 2019*  
Conducted an advanced research project in the class of "Artificial Intelligence" at Dept. Computer Science advised by Prof.Koichi Shinoda. I proposed a small- sized AlphaZero algorithm and experimented with it in the Othello game.

**NLP Summer Seminar, Matsuo Lab, UTokyo** *August 2018 - September 2018*  
Researched and implemented several algorithms in natural language processing (NLP) and deep learning advised by Prof.Naoaki Okazaki, Prof.Yoshimasa Tsuruoka and Prof.Yutaka Matsuo. I ranked within the top 10th in a machine translation competition.

**NLP Seminar, Okazaki Lab, Tokyo Tech** *March 2018 - August 2018*  
Implemented fundamental algorithms of natural language processing and machine learning, and reviewed the codes with each other, advised by Prof.Naoaki Okazaki.

## PUBLICATIONS

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### **Consistency Regularization using Data Augmentation for Cycle-Consistent GANs**

**Takehiko Ohkawa**, Naoto Inoue, Hirokatsu Kataoka, and Nakamasa Inoue  
In MIRU2020 (domestic conference), Japan (online)

### **Stabilization of Object-aware Representation Learning with Cyclical Annealing on KL Regularization**

Hideki Tsunashima, **Takehiko Ohkawa**, Hiroaki Aizawa, Hirokatsu Kataoka and Shigeo Morishima  
In MIRU2020 (domestic conference), Japan (online)

### **Augmented Cyclic Consistency Regularization for Unpaired Image-to-Image Translation**

**Takehiko Ohkawa**, Naoto Inoue, Hirokatsu Kataoka, and Nakamasa Inoue  
<https://arxiv.org/abs/2003.00187>

## WORK EXPERIENCE

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### **Neural Pocket Inc.**

*Researcher Internship*

*October 2019 - May 2020*

Researched on pixel-based domain adaptation for face recognition.

### **Department of Computer Science, TokyoTech**

*Research Assistant*

*August 2019 - March 2020*

Worked on large-scale computing experiments using a series of supercomputers at TokyoTech, Tsubame3.0., advised by Prof.Nakamasa Inoue.

### **teamLab Inc.**

*Engineer Internship*

*August 2019*

Researched on an artistic generation using computer vision techniques and created artwork in the interactive and computer vision team.

### **Cross Compass Ltd.**

*Researcher Internship*

*December 2017 - November 2018*

Researched on visual pattern recognition, deep generative models, and reinforcement learning.

## AWARDS & GRANTS

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### **JEES/Softbank AI Scholarship**

*April 2020 - March 2021*

### **Tokio Marine Kagami Memorial Foundation Scholarship**

*April 2018 - March 2020*

## EXTRA-CURRICULAR

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### **Survey of Image-to-Image Translation**

Presented a broad survey of image-to-image translation at DeNA Co., Ltd.

*October 2019*

### **Survey of Reinforcement Learning and GANs**

Presented a meta survey of reinforcement learning and GANs at Waseda University.

*February 2019*