# 村松 直哉

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埼玉県八潮市

## EDUCATION

**筑波大学** April 2018 – Present
修士（情報学）
図書館情報メディア研究科図書館情報メディア専攻
指導教員: 佐藤哲司 教授
Subadviser: Yu Hai-Tao

**筑波大学** April 2016 – March 2018
Bachelor of Library and Information Science
College of Knowledge and Library Sciences
指導教員: Yoichi Ochiai

**National Institute of Technology, Nagano College** April 2011 – March 2016
Foundation Degree
Department of Electrical and Electronic Engineering
指導教員: Takashi Miyazaki

## RESEARCH EXPERIENCE

**筑波大学** April 2018 – Present
*Master Research*

· Proposed the method of applying spiking neural networks for event-based cameras.

**University of Cape Town** July 2020
*Research Internship*

· Estimated the motion of a real cheetah from multi-cameras with trajectory optimization (Supervisor: Dr. Amir Patel).

**筑波大学** April 2016 – March 2018
*Undergraduate Research*

· Analyzed reviews of EC site to find out points of variation.
· Developed Sonoliards optimizing the direction of a parametric speaker with a ray tracing algorithm.
· Developed DeepHolo that recognizes 3D objects using a deep neural network and computer-generated holography for convert 3D data to 2D data with depth information.
· Developed DeepWear, a method using deep convolutional generative adversarial networks (DCGANs) for clothes design.

**National Institute of Technology, Nagano College** April 2015 – March 2016
*Undergraduate Research*

· Developed the noise filter that greatly suppresses the influence of radio noise in the indoor position information system using Link Quality Indication (LQI) value of radio waves.

## TECHNICAL STRENGTHS

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|---|---|
| **Programming Languages** | Python(most fluent), C, C++, Verilog, Shell Script, Ruby, JavaScript, SQL |
| **Machine Learning Libraries** | Tensorflow, Keras, PyTorch, Scikit-learn, Chainer |
| **Software** | Git, Docker, PyBullet, Processing, Autodesk Fusion360 |
| **OS** | MacOS, Ubuntu, Windows, FreeNAS, CentOS |
| **Hardware** | Arduino, Mbed, PhantomX AX Metal Hexapod |

## PUBLICATIONS

### INTERNATIONAL CONFERENCES (REFEREED)

· Chun Wei Ooi, **Naoya Muramatsu**, and Yoichi Ochiai. 2018. Eholo glass: Electroholography glass. A lensless approach to holographic augmented reality near-eye display. In *SIGGRAPH Asia 2018 Technical Briefs* (SA ' 18), December 4 - 7, 2018, Tokyo, Japan. ACM, New York, NY, USA, 4 pages. DOI: `https://doi.org/10.1145/3283254.3283288`

· Natsumi Kato*, Hiroyuki Osone*, Daitetsu Sato, **Naoya Muramatsu**, and Yoichi Ochiai. 2018. DeepWear: a Case Study of Collaborative Design between Human and Artificial Intelligence. In *Proceedings of the Twelfth International Conference on Tangible, Embedded, and Embodied Interaction* (TEI ' 18). ACM, New York, NY, USA, 529-536. DOI: `https://doi.org/10.1145/3173225.3173302` (* Joint first authorship.)

· **Naoya Muramatsu**, Ooi Chun Wei, Takashi Miyazaki. 2017. Development of High Performance Filter for Indoor Positioning System. In *The 5th IIAE International Conference on Intelligent Systems and Image Processing 2017*(ICISIP 2017).

### INTERNATIONAL Posters and Workshops (REFEREED)

· Natsumi Kato, Hiroyuki Osone, Daitetsu Sato, **Naoya Muramatsu**, and Yoichi Ochiai. 2017. Crowd Sourcing Clothes Design Directed by Adversarial Neural Networks. In *NIPS 2017 Workshop* (NIPS ' 17).

· **Naoya Muramatsu**, Kazuki Ohshima, Ryota Kawamura, Ooi Chun Wei, Yuta Sato, and Yoichi Ochiai. 2017. Sonoliards: Rendering Audible Sound Spots by Reflecting the Ultrasound Beams. In *Adjunct Publication of the 30th Annual ACM Symposium on User Interface Software and Technology* (UIST ' 17). ACM, New York, NY, USA, 57-59. DOI: `https://doi.org/10.1145/3131785.3131807`

· **Naoya Muramatsu**, Chun Wei Ooi, Yuta Itoh, and Yoichi Ochiai. 2017. DeepHolo: Recognizing 3D Objects using a Binary-weighted Computer-Generated Hologram. In *SIGGRAPH Asia 2017 Posters* (SA 2017), November 27 - 30, 2017, Bangkok, Thailand. ACM, New York, NY, USA, 2 pages. DOI: `https://doi.org/10.1145/3145690.3145725`

· Mose Sakashita, Yuta Sato, Ayaka Ebisu, Keisuke Kawahara, Satoshi Hashizume, **Naoya Muramatsu**, Yoichi Ochiai. 2017. Haptic Marionette: Wrist Control Technology Combined with Electrical Muscle Stimulation and Hanger Reflex. In *SIGGRAPH Asia 2017 Posters* (SA 2017). ACM, New York, NY, USA, Article 33, 2 pages. DOI: `https://doi.org/10.1145/3145690.3145743`

### DOMESTIC CONFERENCES (NOT REFEREED)

· **Naoya Muramatsu**, Tetsuji Satoh, Takayasu Fushimi. 2017. Product Attribute Extraction Method Based on Transition Pattern of Review Point of View. In *Data Engineering and Information Management 2017* (DEIM 2017). (in Japanese)

## WORK EXPERIENCE

**Landscape Co.,Ltd.** January 2020 – Present
*Outside CTO*

· Worked on development of some systems with Machine Learning techniques.

**Information-technology Promotion Agency, Japan. Exploratory Software Project (MITOU)** June 2018 – March 2019
*Creator*

· Developed the robot control system, able to walk even if a few legs are broken using hierarchy Q-learning.
· 2,304,000 JPY / nine months.

**Pixie Dust Technologies, Inc.** August 2017 – April 2019
*Software Engineer*

· Worked on development of management systems and web applications.

**Fixstars Corporation** August 2016 – December 2016
*Software Engineer Intern*

· Worked on development of semantic segmentation system for self-driving cars.

**Fixstars Corporation** August 2014 – September 2014
*Software Engineer Intern*

· Worked on software optimization for the microcomputer of cars.

## AWARDS

**2018** MITOU Projects, **Super Creator**
This award were given 16 creators from 27 people adopted from 300+ applications.
**2018** 筑波大学, **President's Award for Students**
**2017** DEIM 2017, **Student Presentation Award**.
**2015** RoboCupJunior Soccer 2015 in Hokushinetsu Block, **Prize: 3rd**

## LINKS

**Digital Nature Group** https://digitalnature.slis.tsukuba.ac.jp/
**GitHub: DenDen047** https://github.com/DenDen047