Jun Yamada

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RESEARCH INTERESTS

Robotics, Reinforcement Learning, Representation Learning, Computer Vision

EDUCATION

University of Oxdford· Oxford, United Kingdom **10/2021 ~ Present**

- DPhil Engineering Science
- The Applied AI Lab (A2I), Supervisor: Professor Ingmar Posner

University of Southern California· Los Angeles, United States **10/2019 ~ 10/2021**

- Visiting scholar at Cognitive Learning for Vision and Robotics (CLVR) lab under the supervision of Professor Joseph J. Lim

University College London· London, United Kingdom **09/2018 ~ 09/2019**

- MSc Data Science and Machine Learning in the Department of Computer Science
- Distinction Honor

Keio University · Tokyo, Japan **04/2014 – 03/2018**

- B.Eng. in Administration Engineering
- Studies include courses in computer science, applied mathematics, and statistics
- As member of department's machine learning research group, conducted research at Sakurai Lab on object detection

KTH Royal Institute of Technology · Stockholm, Sweden **08/2016 – 07/2017**

- Exchange student, School of Computer Science (Master level courses during my bachelor study)

RESEARCH EXPERIMENCE

University of Southern California · , United States **10/2019 – Present**

- Worked on "Motion Planner Augmented Reinforcement Learning for Robot Manipulation in Obstructed Environments" as one of the first co-authors under the supervision of Professor Joseph J. Lim.
- Published "Task-Induced Representation Learning" to ICLR 2022

SE4, Inc. · Tokyo, Japan **09/2019 – 10/2019**

- Attempted to develop a learning algorithm to infer 3D shapes sorely with 2D supervision by leveraging differentiable rendering techniques and geometric constraints under supervision of Dr. Shunsuke Saito and Dr. Hirokatsu Kataoka.

University College London · , United Kingdom **03/2019 – 09/2019**

- Worked on "Evolution of a complex predator-prey ecosystem based on deep reinforcement learning" for the MSc thesis under the supervision of Dr. Zafeirios Fountas and Prof. John Shawe-Taylor.
- Researched on "Using Graph Convolutional Networks for Abstractive Text Summarization" as a project in the lecture "Statistical Natural Language Processing".

Sakurai Lab, Keio University · Tokyo, Japan **07/2017 – 03/2018**

- Worked on multi-modal Single Shot MultiBox Detector for RGB-D images.
- Attempted to subject RGB-D images to Single Shot MultiBox Detector to improve the accuracy of object detection.

KTH Royal Institute of Technology · Stockholm, Sweden **03/2017 – 07/2017**

- As a volunteer researcher, undertook computer vision research on an image registration method called 'Sum of Conditional Variance Differences' under the supervision of Associate Professor Atsuto Maki.

PUBLICATIONS

- **J Yamada***, C Hung*, J Collins, I Havoutis, I Posner, "Leveraging Scene Embeddings for Gradient-Based Motion Planning in Latent Space", *International Conference on Robotics and Automation (ICRA)*, 2023.

- **J Yamada**, K Pertsch, A Gunjal, JJ Lim, "Task-Induced Representation Learning", *International Conference on Learning Representation (ICLR)*, 2022.

- **J Yamada***, Y Lee*, G Salhotra, K Pertsch, M Pflueger, GS Sukhatme, JJ Lim, P Englert, "Motion Planner Augmented Reinforcement Learning for Robot Manipulation in Obstructed Environments", *Conference on Robot Learning (CoRL)*, 2020.

- **J Yamada**, J Shawe-Taylor, Z Fountas, "Evolution of a Complex Predator-Prey Ecosystem on Large-Scale Multi-Agent Deep Reinforcement Learning", *International Joint Conference on Neural Network (IJCNN),* 2020.

INDUSTRY EXPERIENCE

Research Intern, OMRON SINIC X, Inc. · Tokyo, Japan **03/2021 – 09/2021**
- Worked on imitation learning for bimanual manipulation (under review in IROS 2022)

Research Intern, SE4, Inc. · Tokyo, Japan **09/2019 – 10/2019**
- Researched on computer vision, inspired by Canonical Space Mapping and Learning Category-Specific Mesh Reconstruction, supervised by Dr. Hirokatsu Kataoka and Dr. Shunsuke Saito.
- Collaborated with National Institute of Advanced Industrial Science and Technology.

Machine Learning Engineer, Grid, Inc. · Tokyo, Japan **08/2017 – 08/2018**
- Developed deep learning models such as DenseNet semantic segmentation, Faster-RCNN, and Single Shot Multibox Detector using an in-house deep learning module called ReNom.

Software Engineer Intern, KitchHike, Inc. · Tokyo, Japan **04/2016 – 08/2016**
- Implemented a web application as the chief backend developer, using Ruby.

Software Engineer Intern, WealthNavi, Inc. · Tokyo, Japan **04/2015 – 08/2015**
- Developed the software for the company's automatic investment system, especially to display the investment model and predicted results on the company's website.

Software Engineer Intern, Div, Inc. · Tokyo, Japan **09/2014 – 04/2016**
- Engineered the company's applications using Ruby, and improved various in-house systems, including the company's customer management system.

REVIEWING SERVICE

- International Conference on Robotics and Automation (ICRA), 2023.
- Asian Conference on Machine Learning (ACML), Workshop on Machine Learning for Mobile Robot Vision and Control (MRVC), 2021.

SKILLS

Language / Skills: Python, C++, Pytorch, Tensorflow, Chainer, Javascript, Django, Flask, Ruby, Ruby on Rais, ReactJS, AngularJS, C#, C,

Miscellaneous: MuJoCo, OMPL, CUDA Programming