


## Requests for Collaboration

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<p><b>Research Interests</b></p>	
<ul style="list-style-type: none"><li>● Artificial Intelligence</li><li>● Reinforcement Learning</li><li>● Learning by Robots</li></ul>	
<p><b>Creative Achievements in The Application of New and Existing Science and Technology</b></p>	
<p><b>(1) Methods for processing informal natural language sentences</b> have been developed. They have been applied to a recommender system for news articles, a spoiler detection method for reviews of products with stories, and a tool for an online conversation game, the Werewolf game.</p> <p><b>(2) Methods for learning state representations for reinforcement learning</b> have been studied and efficient learning methods have been developed. A reinforcement learning method that can handle raw visual input data from on-board camera has been developed. It can learn appropriate suboptimal goal-directed behavior quickly.</p> <p><b>(3) A new niching genetic algorithm for multimodal combinatorial optimization problems</b>, which performs an effective search using a lot of small subpopulations have been developed. It was applied to the Quadratic Assignment Problem and showed its effectiveness.</p>	
<p><b>Technology (Product, Process, Device, Service etc.) That I Want to Request for Collaboration</b></p>	
<ul style="list-style-type: none"><li>● Datasets of informal natural language sentences, such as online comments, reviews, and messages on a bulletin board system</li><li>● Easy-to-use small mobile robots or robot arms with on-board cameras</li></ul>	
<p><b>A List of 5 Key Publications</b></p>	
<ul style="list-style-type: none"><li>• A Method for Detecting Werewolves in the Werewolf Game Based on Vector Representations of Words, <u>Atsushi Ueno</u>, Masaki Sakamoto, Tomohito Takubo, <i>ICIC Express Letters</i>, 12(4), 313-319 (2018).</li><li>• Vision-Based Reinforcement Learning in Environments with Action Noise, <u>Atsushi Ueno</u>, Natsuki Kajihara, Tomohito Takubo, <i>ICIC Express Letters, Part B: Applications</i>, 7(10), 2123-2128 (2016).</li><li>• A Niching Genetic Algorithm Including an Inbreeding Mechanism for Multimodal Problems, <u>Atsushi Ueno</u>, Naoki Hagita, Tomohito Takubo, <i>Genetic and Evolutionary Computing, Advances in Intelligent Systems and Computing</i> 387, Springer, 71-80 (2015).</li><li>• Vision-Based Path Learning for Home Robots, <u>Atsushi Ueno</u>, Natsuki Kajihara, Natsuko Fujii, Tomohito Takubo, <i>Proceedings of the 2014 Tenth International Conference on Intelligent Information Hiding and Multimedia Signal Processing</i>, 411-414 (2014).</li><li>• A Temporal-Difference Learning Method Using Gaussian State Representation for Continuous State Space Problems, Natsuko Fujii, <u>Atsushi Ueno</u>, Tomohito Takubo, <i>Transactions of the Japanese Society for Artificial Intelligence</i>, 29(1), 157-167 (2014. in Japanese).</li></ul>	