Research interest:

Genetic algorithms, Reinforcement learning, Neural networks

Finished research:

Study on inverse model learning by neural networks,
(Doctoral dissertation of Kyoto Univ., 1996/3)

Ongoing research:

Methods for acceleration for convergence speed of genetic algorithms and evolutionary computations
Agent learning algorithms using likelihood maximization
Parallel multi-objective evolutionary computation

Research Proposal:

New evolutionary and learning algorithms are developed, and will be applied to some test problem and control of mobile robots.

Paper lists:

Proceedings

An inverse modeling using five-layer perceptron,
Yamaguchi, Tanaka, Itakura,
Proc. of International Joint Conf. on Neural Networks, Vol. 3, pp. 2803--2806 (1993/10)

Neural network learning for a manipulator inverse kinematics problem using a forward model,
Yamaguchi, Itakura,
Proc. of International Conf. on Neural Information Processing, pp. 1181--1186 (1994/11)

A concurrent learning algorithm for forward and inverse models using feedback error learning in the early stage,
Yamaguchi, Okazaki, Itakura,
System and Computer in Japan, Vol. 26, No. 3, pp. 65--73 (1995/3)

An inverse model learning algorithm using the hierarchical mixtures of experts,
Yamaguchi, Itakura, Nishikawa,
Proc. of International Conf. on Neural Networks, pp. 2738--2742 (1995/11)

Inverse modeling of a mobile robot using feedback error learning,
Yamaguchi, Itakura,
Proc. of International Conf. on Neural Information Processing, Vol. 2, pp. 1114--1117 (1998/10)

A modular neural network for control of mobile robots,
Yamaguchi, Itakura,
Proc. of International Conf. on Neural Information Processing, Vol. 2, pp. 661--666 (1999/10)

Modular neural network architecture for inverse modeling of mobile robots,
Yamaguchi, Itakura,
Proc. of The Fifth International Symp. on Artificial Lifeand Robotics, Vol. 2, pp. 817--820 (2000/1)

A gene selecting method for accelerating convergence speed of genetic algorithms,
Yamaguchi, Itakura,
Proc. of International Conf. on Neural Information Processing (2001/11)

A likelihood maximization learning algorithm for agents with neural networks,
Yamaguchi, Itakura,
Proc. of The Sixth International Symp. on Artificial Life and Robotics, Vol. 2, pp. 576--579 (2002/1)

Journal paper

A new nonlinear integrator with positive phase shifts,
Shen, Yamaguchi, Itakura,
IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, Vol. E81-A, No. 1, pp. 197--201 (1998/1)

A concurrent learning algorithm of forward and inverse models using feedback error learning in the early stage,
Yamaguchi, Okazaki, Itakura,
The Trans. of the institute of electronics, information and communication engineers, J-77
D-II, No. 5, pp. 1001--1008 (1994/5) (in Japanese)

A method for solving an inverse kinematics problem a redundant manipulator using a neural network as a forward model,
Yamaguchi, Itakura,
Trans. of institute of electric engineers of Japan C, Vol. 116, No. 3, pp. 367--373 (1996/3) (in Japanese)

A learning algorithm for inverse problem using the Hierarchical Mixtures of Experts as a forward model,
Yamaguchi, Itakura,
The Trans. of the institute of electronics, information and communication engineers, J79-D-II, No. 7, pp. 1
261--1270 (1996/7) (in Japanese)

Learning algorithms for agents for maximizing the likelihood,
Yamaguchi, Itakura,
Trans. of institute of electrical engineers C, Vol. 121, No. 10, pp. 1612--1619 (2001/10) (in Japanese)

A selection method of gene for decreasing the number of fitness value calculations,
Yamaguchi, Itakura,
Trans. of institute of electrical engineers C, Vol. 122, No. 5, pp. 1612--1619 (2002/5) (in Japanese)