Curriculum Vitae

Masataro Asai

Masters Student
Department of General Systems Studies
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Personal Details

Gender: Male
Date of birth: March 28th, 1990
Present Citizenship: Japanese

Education

04/2009–03/2013 Received B.Eng in Traffic Simulation at University of Tokyo, Japan

Specialization: Traffic Simulation, Multiagent Model, Spatial Search

Thesis: *Distributed Cooperative Agents in Microscopic Traffic Simulation using St-RRT*; Supervisor: Prof. S. Yoshimura.

04/2013–03/2015(expected) M.A. in Artificial Intelligence at University of Tokyo, Japan

Specialization: Artificial Intelligence, Heuristic Search, Planning, Scheduling, Optimization

Project title: *Automated Cyclic Planning for Large Scale planning problems*; Supervisor: Assoc. Prof. A. Fukunaga

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Undergraduate Thesis

In the large-scale traffic simulation literature, one of the major approaches is called a microscopic multiagent model. It simulates the behavior of each car (an agent) to produce the macroscopic emergent phenomena e.g. traffic-jams. The behavior of microscopic agent heavily affect the the macroscopic phenomena. Therefore, developping the appropriate agent model is the key factor to maintain the simulation accuracy. One of such important aspects is called a cooperative behavior. We have implemented a agent interaction & decision model based on Spatiotemporal RRT(St-RRT) to simulate the cooperative behavior and empirically evaluated the effectiveness of our approach.

Masters Thesis

In domains such as factory assembly, it is necessary to assemble many identical instances of a particular product. While modern classical planners can generate assembly plans for single instances of a complex product, generating plans to manufacture many instances of a product is beyond the capabilities of standard planners. We propose ACP, a system which, given a model of a single instance of a product, automatically reformulates and solves the problem as a cyclic planning problem. We showed that our domain-independent ACP system can successfully generate cyclic plans for problems which are too large to be solved directly using standard planners.

Working Experience

12/2011–09/2012 Internship at Metamoji.inc, Japan (Part-time)

Overview: Prototyping a new graphical drawing-chat system for iPad. Both the server side and the client side programs are written in Javascript, a popular method at that time because of the great advances in JS-based ecosystem such as Node.js (a server-side Javascripting framework based on Google V8 engine) and Titanium Mobile (a system for building JS-based native iPhone/iPad app).

03/2014–09/2014 Internship at LogicVein.inc, Japan (Part-time)

LogicVein is a developper of a Network Configuration Management System called NetLinedancer, an award-winning software that allows the users to efficently manage the complex network configurations of remote routers and switches.

Overview: I mainly worked as a translater. The materials consist of: advertisement leaflets, blog articles and the technical product manual (more than 200 pages long).

I also converted the Microsoft Word documents into Emacs Org-mode plain-text documents to set up a publishing system. It compiles the document into a LaTeX-based pdf and multiple webpages, which is now bundled with their software.

Publications

[1] Masataro Asai and Alex Fukunaga. Applying problem decomposition to extremely large planning domains. In *Proceedings of the ICAPS Workshop on Knowledge Engineering for Planning and Scheduling(KEPS)*, Portsmouth, NH, June 2014.

[2] Masataro Asai and Alex Fukunaga. Fully automated cyclic planning for large-scale manufacturing domains. In *Proceedings of the International Conference of Automated Planning and Scheduling(ICAPS)*, Portsmouth, NH, June 2014.

Professional Services

Reviewer for the following journals: Association for Advancement of Artificial Intelligence (2015)

Technical Skills

Programming Languages: C, Java, Python, Bash, JavaScript, Microchip PIC Assembly, Common Lisp

Other specific software skills: jQuery, Titanium Mobile, Node.js, Socket.IO, websocket

Other specific hardware skills: 74 logic circuit and microcontroller, welding, vehicle maintainance and internal combustion engine

Operating Systems: Ubuntu Linux, Mac OSX

Language Knowledge

Japanese	native
English	fair