# CURRICULUM VITAE


## MASATARO ASAI

Doctoral Student
Department of General Systems Studies
Graduate School of Arts and Sciences, University of Tokyo

Gender: Male. Date of birth: March 28th, 1990. Present Citizenship: Japanese.
Address: Saginuma-Viola 201 6-23-18 Arima Miyamae-ku Kawasaki Kanagawa, Japan.
Cell: +81-50-7576-3690. Email: guicho2.71828@gmail.com Skype: guicho2.71828
Website: http://guicho271828.github.io/


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## EDUCATION

**04/2013–03/2018** (expected) *Ph.D student, M.A.* (received on 03/2015). Specialization: Artificial Intelligence, Heuristic Search, Planning, Scheduling, Optimization. Masters Thesis: *Automated Cyclic Planning for Large Scale Planning Problems*; Advisor: A. Fukunaga

**04/2009–03/2013** B.Eng in Traffic Simulation. Specialization: Traffic Simulation, Multi-agent Model, Spatial Search. Thesis: *Distributed Cooperative Agents in Microscopic Traffic Simulation using St-RRT*; Advisor: S. Yoshimura. H. Fujii.

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## PUBLICATIONS & PRESENTATIONS

[1] Masataro Asai and Alex Fukunaga. Tiebreaking Strategies for Classical Planning Using $A^*$ Search. In *Proceedings of 30th AAAI Conference on Artificial Intelligence*, Arizona, USA, February 2016.

[2] Masataro Asai and Alex Fukunaga. Solving Large-Scale Planning Problems by Decomposition and Macro Generation. In *Proceedings of the International Conference of Automated Planning and Scheduling(ICAPS)*, Jerusalem, Israel, June 2015.

[3] 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.

[4] 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.

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## PROFESSIONAL SERVICES

Japan Society for the Promotion of Science, Research Fellow (DC2) (Apr. 2016-)

Subreviewer for Association for Advancement of Artificial Intelligence (2015).

One of my planning domain CELL-ASSEMBLY is added to SIGAPS "Real and Realistic Planning Domains" by Patrik Haslum at http://users.cecs.anu.edu.au/~patrik/sigaps/index.php?n=Main.RealDomains .

## Technical Skill

**Programming skill:** Familiarity with all of: Object-Oriented programming, Functional programming, Logic / Rule-based programming, Metaprogramming and low-level optimization, Domain Specific Language, compile-time optimization.

**Development skill:** Comfortable with the use of Git, GitHub Flow development model, Test-Driven Development, Unit Testing, and Continuous Integration using Travis-CI / CircleCI.

**Programming Languages:** (professional) Common Lisp, C++, Bash, Javascript / Coffeescript, C, (intermediate) Java, Python, (elementary) Ruby

## Language Ability

**English:** TOEFL 105/120 (Reading:29/30, Listening:29/30, Speaking:22/30, Writing:25/30, Dec 2014). I enjoy daily discussion on Reddit, Github, Skype and IRC channels.

## Work Experience

**03/2014–09/2014** Internship at LogicVein.inc, a developer of a Configuration Management System for network routers and switches. Worked on the technical product manual (more than 200 pages long) and converted it into web pages, which is now bundled with their software.

**04/2013–08/2013** Teaching Assistant in "Experiments in Information and Environmental Sciences", under Assoc. Prof. Haruo Saito. Students have assembled and calibrated the analog or digital circuits to read the physical values of experimental equipments.

**04/2012–08/2012** Teaching Assistant in "Field Work - Introductory Course on Automobiles", under Prof. Kohei Kusaka. Lecture on basic safety measure and the mechanism of vehicles.

**12/2011–09/2012** Internship at Metamoji.inc. Prototyped a drawing-chat system for iPad. Both the server and the client side are written in Javascript with Node.js and Titanium Mobile.

## Community Services / Other activities

(present) Open source activities on Github.

(2015) eazy-opencl : Common Lisp interface to OpenCL 2.0 (GPGPU language similar to CUDA).

(2015) Contributer of POCL, a vender-agnostic Portable OpenCL implementation in C and C++.

(2015) trivia, trivia.balland2006 : An extensible and fast pattern matching compiler in Common Lisp.

(2012) Macascript : a homoiconic language that compiles into javascript.

(2013–present) Managing the TORQUE-based compute cluster (10 nodes, 80 cores) in the laboratory. NFS/NIS-based file system and login name synchronization. Secure VPN network over the campus. Temparature monitoring and power saving system for increased robustness.

(2011–2012) Professional mechanical engineering activity under project professor Kohei Kusaka (former World Rally Championship co-driver): Full engine rebuilding of 1.8L BP engine on Mazda Miata '89-'04, mechanical engineering(compression ratio), fuel map / ignition timing optimization, development of visualization interface & variable resonance intake controller (Arduino).

(2011) Certification in "basic course on machining technique" by Prof. Ryu Chikayama.