HIROYUK IIDA

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BIOGRAPHICAL DETAILS

Dr. Hiroyuki Iida was born in 1962, who has Japanese Nationality. Married, three children, three grandchildren.

OVERVIEW

HIROYUKI IIDA received the Ph.D. degree in heuristic theories of game tree search from the Tokyo University of Agriculture and Technology, Tokyo, in 1994. He was affiliated with Shizuoka University, Hamamatsu, and a Guest Researcher with Maastricht University. He is currently a Japanese Computer Scientist and a Computer Game Researcher with a focus on game refinement theory, opponent-model search, and computer shogi. He is also the Trustee and the Vice President of educational and student affairs with the Japan Advanced Institute of Science and Technology (JAIST), and Head of the Iida Laboratory. He is a professional 7-dan shogi player, a coauthor of the shogi program TACOS, and a four-time gold medal winner at the Computer Olympiad. His research interests include artificial intelligence, game informatics, game theory, mathematical models, search algorithms, game refinement theory, game tree search, and entertainment science.

Dr. Hiroyuki Iida has been an enthusiasm researcher in the domains such as computer games and entertainment computing, while acting as important roles of international activities such as conference chair, program chair and journal editor. He has also organized Mind Sports Computer Olympiad as the secretary/treasurer of ICGA (International Computer Games Association) for each year since early 2000. He supervised many master and PhD students until now, while acting as PhD committee member (external assessment) for PhD candidates in Maastricht University and Tilburg University in the Netherlands. He also served as an external assessment for international research funding such as Canada and Holland.

URL: https://www.jaist.ac.jp/english/laboratory/his/iida.html

Elsevier Scopus SciVal Score shows (April 2023) that Hiroyuki Iida's research activities with his associates in Artificial Intelligence; Algorithms; Computers (TC.1151) and Students; Education; Teaching (TC.542) are at the highest ranking in Japan as well as within top 10 ranking in the world.

PROFESSIONAL CAREER

Trustee and Vice-president of JAIST 2020 - onward

Full Professor, School of Information Science, Japan Advanced Institute of Science and Technology (JAIST) 2005-2020
Dean, **School of Information Science**

Senate, JAIST 2010-2011

Director, Research Unit for Entertainment and Intelligence 2009-onward

Director, Research Unit for Computer Games 2005-2009

Researcher, PRESTO (Precursory Research for Embryonic Science and Technology), JST (Japan Science and Technology Agency)
2003-2006

JST big funding project has enabled Dr Hiroyuki Iida to carry out many outstanding research outputs. It includes the development of AI programs such as computer shogi world champion (TACOS), invention of the game-refinement theory which is another game theory from the viewpoint of game designers, a new ranking system, and so on. http://scienceportal.jp/archives/archiv-column/archiv-sakigake/7325/20070413.html

Associate Professor, Department of Computer Science, Faculty of Information, University of Shizuoka
1996-2005

Dr. Hiroyuki Iida proposed the opponent-model search (OM-Search) which is a generalization of the minimax-based game tree search which has been proposed by Claude E. Shannon (1950) based on the game theory idea by von Neumann (1928). Moreover, he proposed many advanced ideas based on OM-Search such as tutorial/coaching strategy in game playing and cooperating strategy. He received distinguished awards from several association such as Japan AI Society, Computer Software Society, and Computer Shogi Association.

GM 7-dan Shogi player, Japan Shogi Federation
1983-1994

Dr. Hiroyuki Iida has been a GM shogi 7-dan player. He has been invited to participate all official tournament of shogi in Japan. He has been an enrolled would-be-GM player since he was 14 years of age. He stopped this career in 1992 in order to concentrate his research activities.

EDUCATION

1992-1993 VISITING PHD STUDENT, UNIVERSITY OF MAASTRICHT
1992-1994 Tokyo University of Agriculture and Technology, PhD

1989-1991 Research student, Department of Computer Science, School of Electric Engineering, Tokyo University of Agriculture and Technology

1980-1985 Undergraduate study, Department of Mathematics, Sophia University

PUBLICATIONS

Objectivity and Subjectivity in Variation of Multiple Choice Questions: Linking the Theoretical Concepts using Motion in Mind, Punyawee Anunpattana, Mohd Nor Akmal Khalid, Hiroyuki Iida. IEEE Access 2023

Implications of Jerk's On the Measure of Game's Entertainment: Discovering Potentially Addictive Games, Naying Gao, Hengyuan Chang, Zeliang Zhang, Mohd Nor Akmal Khalid, Hiroyuki Iida. IEEE Access 2022

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Action Games Evolution Analysis: A Case Study Using the God of War Series., Zeliang Zhang, Naying Gao, Siqi Li, Mohd Nor Akmal Khalid, Hiroyuki Iida. IEEE Access 10, 123697-123710 2022

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The 2021 Computer Olympiad. Hiroyuki Iida, Jonathan Schaeffer, I-Chen Wu. Journal of the International Computer Games Association 43(4) 226-235, 2022

A solver of single-agent stochastic puzzle: A case study with Minesweeper. Chang Liu, Shunqi Huang, Gao Naying, Mohd Nor Akmal Khalid, Hiroyuki Iida. Knowledge-Based Systems 246 108630-108630, 2022

The Dynamics of Minority versus Majority Behaviors: A Case Study of the Mafia Game. Hong Ri, Xiaohan Kang, Mohd Nor Akmal Khalid, Hiroyuki Iida. Information 13(3) 134-134, 2022

Capturing potential impact of challenge-based gamification on gamified quizzing in the classroom. Punyawee Anunpattana, Mohd Nor Akmal Khalid, Hiroyuki Iida, Wilawan Inchamnan. Heliyon 7(12) e08637-e08637, 2021

Addictive Games: Case Study on Multi-Armed Bandit Game. Xiaohan Kang, Hong Ri, Mohd Nor Akmal Khalid, Hiroyuki Iida. Information 12(12) 521-521, 2021

Nature of arcade games. Yuexian Gao, Chang Liu, Naying Gao, Mohd Nor Akmal Khalid, Hiroyuki Iida. Entertainment Computing 41 100469-100469. 2021

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MMORPG Evolution Analysis from Explorer and Achiever Perspectives: A Case Study Using the Final Fantasy Series. Haolan Wang, Zeliang Zhang, Mohd Nor Akmal Khalid, Hiroyuki Iida, Keqiu Li. Information 12(6) 229-229, 2021

Computing Games: Bridging the Gap Between Search and Entertainment. Anggina Primanita, Mohd Nor Akmal Khalid, Hiroyuki Iida. IEEE Access 9 72087-72102, 2021

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Bridging Ride and Play Comfort. Zeliang Zhang, Kang Xiaohan, Mohd Nor Akmal Khalid, Hiroyuki Iida. Information 12(3) 119-119, 2021

Artificial Intelligence and Entertainment Science Workshop: Towards Empathic Entertainment Technology. Mohd Nor Akmal Khalid, Hiroyuki Iida, Umi Kalsom Yusof, Ruzinoor Che Mat. Entertainment Computing - ICEC 2021 - 20th IFIP TC 14 International Conference(ICEC) 475-481 2021

The Computer Olympiad 2020. Hiroyuki Iida, Jonathan Schaeffer, I-Chen Wu. Journal of the International Computer Games Association 43(2) 118-131 2021

A Paradigm Shift from Optimal Play to Mental Comfort: A Perspective from the Game Refinement Theory. Iida, H, Khalid, M. International Journal of Informatics, Information System, Computer Engineering 1(1) 48-81 2020

Player Satisfaction Model and its Implication to Cultural Change. Kang Xiaohan, Mohd Nor Akmal Khalid, Hiroyuki Iida. IEEE Access 8 184375-184382 2020

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Characterizing the Nature of Probability-Based Proof Number Search: A Case Study in the Othello and Connect Four Games. Anggina Primanita, Mohd Nor Akmal Khalid, and Hiroyuki Iida. Information 11(5) 264-264 2020

Analyzing the sophistication of Chinese checkers. Wu Yisi, Mohd Nor Akmal Khalid, Hiroyuki Iida. Entertain. Comput. 34 100363-100363 2020

Nature of Attractive Multiplayer Games: Case Study on China's Most Popular Card Game—DouDiZhu. Yuexian Gao, Wanxiang Li, Yuhao Xiao, Mohd Nor Akmal Khalid, Hiroyuki Iida. Information 11(3) 141-141 2020

Finding appropriate settings of a newly designed game: a case study using Japanese crossword game 'MyoGo Renju. Liu Xinyue, Luping Fu, Mohd Nor Akmal Khalid, Hiroyuki Iida. Entertainment Computing 34 100358-100358 2020

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Simulating competitiveness and precision in a tournament structure: a reaper tournament system. An Vinh Nguyen Dinh, Nhien Pham Hoang Bao, Mohd Nor Akmal Khalid, Hiroyuki Iida. International Journal of Information Technology 12(1) 1-18 2019

Using signal processing model to evaluate the impact of seesaw games. Shuo Xiong, Long Zuo, Punyawee Anunpattana, Hiroyuki Iida. Journal of Nonlinear and Convex Analysis 20(6) 1253-1262 2019

Game refinement theory: Paradigm shift from performance optimization to comfort in mind. Sakshi Agarwal, Mohd Nor Akmal Khalid, Hiroyuki Iida. Entertainment Computing 32(100314) 1-7 2019

An Analysis of Gamification on Dota 2's Business Model. Thavamuni, Sagguneswaraan, Ismail, Hadzariah, Iida, Hiroyuki. Applied Mechanics and Materials 892 55-63 2019

Fog of search resolver for minimum remaining values strategic colouring of graph. Saajid Abuluaih, Azlinah Mohamed, Muthukkaruppan Annamalai, Hiroyuki Iida. Communications in Computer and Information Science 937 201-215 2019

Evaluation of Hotel Loyalty Program with Game Refinement Theory and Analytic Hierarchy Process. LONG ZUO, SHUO XIONG, ZHI-CHAO WANG, HIROYUKI IIDA. DEStech Transactions on COMPUTER SCIENCE and ENGINEERING 433-441 2018

Massively Multiplayer Online Game (MMOG) Impact Towards Malaysian Youth's Time Management, Social Life and Psychology. Norshakirah Aziz, Hiroyuki Iida, Mazeyanti Ariffin, Emelia Akashah Patah Akhiri, Savita K. Sugathan. ADVANCED SCIENCE LETTERS 24(3) 1754-1757 2018

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First Results from Using Game Refinement Measure and Learning Coefficient in Scrabble. Kananat Suwanviwatana, Hiroyuki Iida. CoRR abs/1711.03580 2017

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Possible interpretations for game refinement measure. Shuo Xiong, Long Zuo, Hiroyuki Iida. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10507 LNCS 322-334 2017

An analysis of DOTA2 using game refinement measure. Long Zuo, Shuo Xiong, Hiroyuki Iida. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10507 LNCS 270-276 2017

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An analysis of majority voting in homogeneous groups for checkers: understanding group performance through unbalance. Danilo S. Carvalho, Minh Le Nguyen, Hiroyuki Iida. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10664 LNCS 213-223 2017

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Measuring force of game information in the brain: Linking game refinement theory and neuroscience. Sakshi Agarwal, Rinel Ram, Hiroyuki Iida. 2016 8th International Conference on Knowledge and Smart Technology, KST 2016 291-294 2016

An approach to estimating decision complexity for better understanding playing patterns of masters. Akira Takeuchi, Masashi Unoki, Hiroyuki Iida. Studies in Computational Intelligence 619 113-126 2016

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Using conspiracy numbers for improving move selection in minimax game-tree search. Quang Vu, Taichi Ishitobi, Jean Christophe Terrillon, Hiroyuki Iida. ICAART 2016 - Proceedings of the 8th International Conference on Agents and Artificial Intelligence 2 400-406 2016

Gamification and scrabble, Suwanviwatana Kananat, Jean Christophe Terrillon, Hiroyuki Iida. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10056 LNCS 405-414 2016

A generic model for emotional AI in real-time multiplayer fighting games, Chetprayoon Panumate, Youichiro Miyake, Hiroyuki Iida. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 10056 LNCS 395-404 2016

See for more detail at:

https://researchmap.jp/read0047856/published_papers?limit=50&lang=en

LECTURES | Mathematics (Algebra, Analysis, Discrete Math)

Artificial Intelligence (in English)

Game Informatics (in English)

Entertainment Informatics (in English)

REFERENCE

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I hereby declare that the above description is true to the best of my knowledge.

Sincerely Yours,

April 25, 2023

Hiroyuki Iida