Curriculum Vitae

Tatsuo UNEMI

Glycan and Life Systems Integration Center, Soka University
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Personality

Birth date: January 26th, 1956,　**Birth place:** Kanazawa, Ishikawa pref., Japan,　**Sex:** Male.

Nationality: Japan,　**Religion:** Buddhism.

Employment

Glycan and Life Systems Integration Center, Soka University
Professor, 2023–

Department of Information Systems Science, Soka University
Dean of Faculty of Science and Engineering, 2015–2020
Professor, 2012–2023
Associate Professor (Jokyōju/Junkyōju), 1995–2012
Assistant Professor (Kōshi), 1992–1995
Teach students on Cognitive Science, Artificial Intelligence, Data Structure, Graphical User Interface Programming, and Programming Languages including Lisp, Prolog, Java, Processing and Objective-C; and work with students on Artificial Life by software approaches including combinations among evolution, development, learning and collective behavior.

Tokyo Institute of Technology
Part-Time Lecturer, 1996–1999
Make two hours lecture for undergraduate students twice per year on Artificial Life as a part of the course "Human and Society in Multi-media age" arranged by Prof. Kyōichi Kijima.

Laboratory for International Fuzzy Engineering Research
Visiting Scholar and *Project Leader of ROB Group*, 1992–1995
Lead a group of four researchers from private companies in ROB (Robotics) Group to build a prototype of autonomous distributed robot system that works cooperatively with human.

Shinanogawa Techno-Academy
Part-Time Lecturer, 1989–1991
Teach students on Introduction to Computer Software and Data Structure.

Department of Planning and Management Science, Nagaoka University of Technology
Assistant Professor (Kōshi), 1987–1992
Teach students on Statistics, Programming in OPS5 and Prolog, and Cognitive Science, and work with students and

faculty on Reinforcement Learning Method, Applications of Genetic Algorithms, and Design of Graphical User Interface.

Department of System Sciences, Tokyo Institute of Technology
> *Research Associate (Joshu)*, 1981–1987
> Work with students and faculty on Knowledge Engineering, Machine Learning, Human Interface, and Programming Tools for Artificial Intelligence.

Education

Doctor of Engineering 1994, Tokyo Institute of Technology
> Dissertation: An Instance-based Reinforcement Learning Method and Its Applications to Control and Artificial Life Researches. *(in Japanese)*
> Advisor: Prof. Shigenobu Kobayashi

Master of Engineering 1980, Department of System Sciences, Tokyo Institute of Technology
> Master Thesis: Extension of Extented-LINGOL to N-ary Tree. *(in Japanese)*
> Advisor: Prof. Atsunobu Ichikawa and Dr. Hozumi Tanaka

Bachelor of Engineering 1978, Department of Control Engineering, Tokyo Institute of Technology
> Undergraduate Thesis: A Model of Roamer with Self-learning Function. *(in Japanese)*
> Advisor: Prof. Atsunobu Ichikawa

Professional Activities

Member of COVID-19 AI and Simulation Project, the Cabinet Secretariat Japan 2020–2023.

Committee member of Information Network Center of Soka University Chairman 2014–2015.

Committee member of Information Center of Soka University
> Chairman 2004–2013.
> Vice-chairman 2002–2004.

Chief of Industrial Application Council Society for Instrument and Control Engineers, 2003.
> The Council includes four divisions, Fluid Instrument and Control, Instrumentation Technologies, Industrial Systems, and Network Technologies for Instrument and Control.

Steering committee member of Society for Instrument and Control Engineers Chairman of the councils' conference. 2001–2002.

Visiting Professor AI Laboratory, Institute for Informatics, University of Zurich, April – September, 2000.

Administrator of Computers and Network
> Computer Center of Faculty of Engineering, Soka University 1994–2002
> Information Processing Centre, Nagaoka University of Technology, 1987–1992

Programming Consultant Information Processing Center at Nagatsuda Campus, Tokyo Institute of Technology, 1990–1992

Chief of System and Information Council Society for Instrument and Control Engineers, 1997–2000
> The Society includes five councils and the Council includes seven divisions, System Engineering, Human Interface, Intelligent Engineering, Neural Networks, Bio-Engineering, Decentralized Autonomous Systems, and Discrete Events Systems.

Chief of Intelligent Engineering Division Society for Instrument and Control Engineers, 1995–1997

Working Group Member of Institute for New Generation Computer Technology
> Distributed and Cooperative Problem Solving WG, 1987–1988
> Foundations of Artificial Intelligence WG, 1986–1990
> Application System WG1-2, 1986–1987
> Consultation System WG, 1982–1986

Research Committee Member of Japanese Society for Mechanical Engineers

RC-223 Co-Creative Industrial Processes in Knowledge Economical Society, 2005-2007

RC-211 Highly Skilled System Technologies for Manufacturing utilizing Human Aspects, 2003-2005

RC-194 Application of Information Technologies for Intelligent Industrial Processes in the Globalized Society, 2001-2003

RC-175 Intelligent System Technologies for Human/Society Environmental Symbiosis in Distributed Artifacts System, 1999–2001

RC-155 Intelligent System Technologies for Human-Machine Cooperative Plant in Uncertain Environment, 1997–1999

RC-139 Intelligent Human-Machine Systems, 1995–1997

RC-123 Development of Human Friendly Systems by Amalgamation of Intelligent Technologies, 1993–1995

RC-106 Intelligent System Integration Technology for Plant Engineering, 1991–1993

Editorial Board Member Of:

GASATHJ, Generative Art, Science and Technology Hard Journal, 2012–

Keisoku to Seigyo (Communications for Society of Instrument and Control), 2004–2005

Journal of Information Processing Society in Japan, 1999–2001

Journal of Advanced Computational Intelligence, 1996–Present

Journal of Japanese Society for Artificial Intelligence, 1997–1998

Program Committee Member Of:

2019 IEEE Symposium Series on Computational Intelligence (ALIFE) (SSCI 2019)

10th International Conference on Computational Creativity (ICCC 2019)

The 2018 Conference On Artificial Life (ALIFE 2018)

9th International Conference on Computational Creativity (ICCC 2018)

14th European Conference of Artificial Life (ECAL 2017)

8th International Conference on Computational Creativity (ICCC 2017)

7th International Conference on Computational Creativity (ICCC 2016)

15th International Conference on the Synthesis and Simulation of Living System (A-Life XV, 2016)

13th European Conference of Artificial Life (ECAL 2015)

6th International Conference on Computational Creativity (ICCC 2015)

Virtual World 2012

IEEE Symposium on Artificial Life (IEEE ALIFE 2011)

7th European Evolutionary Computing Workshops (EvoMUSART, 2004)

6th European Evolutionary Computing Workshops, (EvoMUSART, 2003)

International Conference on Intelligent Robots and Systems (IROS, 1996)

International Workshop on the Synthesis and Simulation of Living System (A-Life V, 1996)

Reviewed Journal Submissions For:

Artificial Life and Robotics

Computer Software (published by Japanese Society of Software Sciences)

IEEE Transactions on Evolutionary Computation

IEEE Transactions on Knowledge and Data Engineering

IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences

Journal of Information Processing Society in Japan

Journal of Japanese Society for Artificial Intelligence

Journal of Japanese Society for Mechanical Engineers

Journal of Society for Instrument and Control Engineers

Journal of Advanced Computational Intelligence

Machine Learning

Reviewed Conference Submissions For:

International Workshop on the Synthesis and Simulation of Living System (A-Life XIV, 2014)

IEEE Symposium on Artificial Life (IEEE ALIFE 2011)

International Conference on Knowledge-based Intelligent Information Engineering Systems (KES, 1999)

International Conference on Intelligent Robots and Systems (IROS, 1996)

International Workshop on the Synthesis and Simulation of Living System (A-Life V, 1996)

Pacific Rim International Conference on Artificial Intelligence (PRICAI, 1990)

International Conference on Fifth Generation Computer Systems (FGCS, 1988)

Public Domain Software Development

SimEpidemic1 2020-2023, Soka University. An individual-based epidemic simulator. p5.js + JavaScript version and macOS application version. `http://www.intlab.soka.ac.jp/~unemi/SimEpidemic1/info/` .

ZugVoegel 2009-2019, Soka University and University of Zurich. Flocking birds simulator originally developed for a theater effect for contemporary ballet *Zugvögel*, that runs on MacOS X.

DT4 Identity SA 2007-Present, Soka University and University of Zurich. Generative and interactive artwork running on MacOS X with live camera.

DT1 Flocking Orchestra 2004-2019, Soka University and University of Zurich. Generative and interactive artwork running on MacOS X with live camera.

VideoSummary 2002–2017, Cubit Co., (shareware). Video utility that summarize a movie file into a collection of extracted frame images running on MacOS X.
A revised version *Video Summary 2* was released in 2014, available from App Store.

SBEAT 2001–2003, Soka University
A composition support tool to create short musical phrases and rhythms based on artificial selection. This is an application of Simulated Breeding, a type of Interactive Evolutionary Computing Technique. This software runs on MacOS 9 and X, and has been widely distributed through the world wide web.

Sample Programs for Complex Systems and Artificial Life 1998, Soka University
Collection of sample programs written in C language that work on Unix with X Window System. The collection includes Logistic map, Langton's self replicator, TSP solver by Genetic Algorithm, a simplified version of BOID and Tierra, and so on.

SBART 1994–Present, Soka University
A support tool to draw 2D CG images and movies using Simulated Breeding method. The first version works on Unix with X Window System including Linux, FreeBSD, SunOS, Solaris, HP-UX and IRIX. The version 2 runs on MacOS 7.6, 8, and 9. The third version runs on MacOS X PowerPC. The forth version runs on MacOS X Intel CPU. The source code of all of versions are written in C language and Motif for Unix, Toolbox for MacOS 9, and Objective-C on Cocoa framework for MacOS X. This software has been widely distributed through the world wide web.

TEW on PC-9801 1983, Tokyo Institute of Technology
A terminal emulation software with window system working on the MS-DOS-based personal computer, NEC PC-9801 series, which was written in the assembly language.

Co-PS 1982, Tokyo Institute of Technology
An interpreter of concurrent production system designed for building expert systems written in LISP 1.9.

LISP 1.9 on MELCOM COSMO 1981, Tokyo Institute of Technology
An interpreter and compiler of a type of LISP programming language, written in the assembly language for Mitsubishi MELCOM-COSMO series super-mini computer system. This system was installed more than ten machines in universities and laboratories including Educational Computer Center in Tokyo University, Computer Center of Kyushu Institute of Design, and KDD Research Laboratory.

N-ary Extended LINGOL 1980, Electrotechnical Laboratory, MITI
A parser for Japanese language text written in LISP 2.0 on Toshiba TOSBAC-5600.

Awards

[1] Unemi, T. and Bisig, D. (2018) Rapid Biography in a Society of Evolutionary Lovers, *Excellence Award in Art Division, 21st Japan Media Arts Festival*, Agency for Cultural Affairs, Japan.

[2] Unemi, T. and Matsumoto, H. (2018) LoversFlow v2 : an individual-based evo-eco simulator on sexual dimorphism – a challenge toward evolutionary aesthetics, *Best Paper Award*, the 23rd International Symposium on Artificial Life and Robotics, Beppu, Japan.

[3] Unemi, T. and Bisig, D. (2016) Visual Liquidizer or Virtual Merge, *Best Artwork Award*, Arts Program in the 15th International Conference on the Synthesis and Simulation of Living Systems (ALIFE XV), Cancun, Mexico.

[4] Bisig, D. and Unemi, T. (2011) Cycles, *Audience Prize*, Media Art Biennale WRO 2011 Alternative Now, WRO Center, Wroc law, Poland.

[5] Bisig, D. and Unemi, T. (2007) MediaFlies, *Excellence Award in Art Division, 10th Japan Media Arts Festival*, Agency for Cultural Affairs, Japan.

[6] Unemi, T. and Bisig, D. (2006) Flocking Messengers, *Honorary Mention, VIDA 9.0 Concurso Internacional sobre Arte y Vida Artificial*, Fundación Telefónica, Spain.

[7] Unemi, T. (2001) For the First Graduation in 21st Century. (CG poster), *The Winner of the Competetion on Evolutionary Art and Design*, in IEEE Congress on Evolutionary Computation, Seoul, Korea.

Invited talks

[8] Unemi, T (2015) Creativity in Evolutionary Arts, *Plenary Lecture in IEEE Congress on Evolutionary Computation 2015*, Sendai, Japan, May 28.

[9] Unemi, T (2012) A Fully Automated Evolutionary Art, *Special Lecture in SCIS-ISIS 2012*, Kobe, Japan, November 22.

Exhibitions

[10] Unemi, T., Kocher, P. and Bisig, D. (2023) Interaction with a Memory Landscape, *the 26th Generative Art Conference*, Biblioteca Vallicelliana, Rome, Italy, December 11–13.

[11] Unemi, T., Kocher, P. and Bisig, D. (2023) Greedy Agents and Interfering Humans, *The 10th Conference on Computation, Communication, Aesthetics & X (xCoAx 2023)*, Galerie Eigenheim, Weimar, Germany, July 5–7.

[12] Unemi, T. and Bisig. D. (2022) Rapid biography in a society of evolutionary lovers, *Japan Media Art Festival in Oosaka Nakanoshima*, Oosaka Nakanoshima Prefectural Library, Oosaka, Japan, November 28 – December 11.

[13] Unemi, T. and Bisig. D. (2022) —, *Japan Media Art Festival in Kochi, New Tsunagaru*, Kochi City Culture-Plaza Cul-Port, Kochi, Japan, January 13 – 25.

[14] Unemi, T. (2021) Selections #2 by the computer from the collection of computer-created evolutionary abstract movies, *Artificial Intelligence Art and Aesthetics Exhibition, Hard Problem of Aesthetic Consciousness*, Informal Nakagawamura Museum, Nakagawa villa., Nagano, Japan, December 4 – 19.

[15] Unemi, T. (2021) Individual-based epidemic simulation, —, Old Ceramics Studio, —

[16] Unemi, T. (2020) Love of Evolutionary Shrimp, *Volcana Brainstorm – Hot Lava Version*, organized by Elena Knox, in *Yokohama Triennale 2020*, PLOT48, Yokohama, Japan, July 17 – October 11.

[17] Unemi, T. (2019) —, *the 22nd Generative Art Conference*, Museo Nazionale Etrusco di Villa Giulia, Rome, Italy, December 19–21.

[18] Unemi, T. (2019) —, *Volcana Brainstorm*, organized by Elena Knox, in *Koganecho Bazaar 2019*, Hachiban-kan, Yokohama, Japan, September 20 – November 4.

[19] Unemi, T. and Bisig, D. (2019) Rapid biography in a society of evolutionary lovers – facial icon version, *Juried exhibition in International Symposium on Electronic Arts*, Asia Culture Center, Gwangju, Korea, June 22–28.

[20] Unemi, T. and Bisig. D. (2019) Rapid biography in a society of evolutionary lovers, *Japan Media Art Festival in Sukagawa, Line of Creation, Line of Life*, Sukagawa Civil Exchange Center TETTE, Sukagawa, Fukushima, Japan, February 27 – March 17.

[21] Unemi, T. and Bisig, D. (2018) 2D Generative Faces for Evolutionary Social Simulation, *the 21st Generative Art Conference*, Museo di Storia Naturale, Verona, Italy, December 18–20.

[22] Unemi, T. and Bisig, D. (2018) Biografía rápida en una sociedad de amantes evolutivos, *Lenguaje, objetos y bestias*, Japan media arts festival en el Salón del Manga de Barcelona 2018, Fira de Barcelona, Spain, November 1–4.

[23] Unemi, T. and Bisig, D. (2018) Browsing the Biographies in an Evolutionary Artificial Society, *the 6th Conference on Computation, Communication, Aesthetics & X*, C Arte C Museo Del Traje, Madrid, Spain, July 11–13.

[24] Unemi, T. and Bisig, D. (2018) Rapid biography in a society of evolutionary lovers, *the 21st Japan Media Art Festival*, National Art Center, Tokyo, Japan, June 13–24.

[25] Unemi, T. and Bisig, D. (2017) —, *the 20th Generative Art Conference*, Biblioteca Classense, Ravenna, Italy, December 13–15.

[26] Unemi, T. (2017–18) Selections #1 by the computer from the collection of computer-created evolutionary abstract movies, *Artificial Intelligence Art and Aesthetics Exhibition*, Okinawa Institute of Science and Technology Graduate University (OIST), On'na-son, Okinawa, Japan, November 3– January 8.

[27] Unemi, T. (2016) Selections by the computer from the five years' stock of Daily Evolved Animations, *the 19th Generative Art Conference*, Auditorium of CRF Foundation, Florence, Italy, December 15–17.

[28] — (2016) —, *NICOGRAPH 2016*, Toyama University, Toyama, Japan, November 4.

[29] Unemi, T. (2016) Daily Evolved Animations, Arts Program in the 15th International Conference on the Synthesis and Simulation of the Living Systems (ALIFE XV), Cancun International Convention Center, Mexico, July 4-8.

[30] Unemi, T. and Bisig, D. (2016) Visual Liquidizer or Virtual Merge, New Media Art Installation, —.

[31] — (2015) *Demo session in ISEA 2015*, Simon Fraser University, Vancouver, BC, Canada, August 16.

[32] — *Interactivity Exhibition, in ACM CHI 2015*, COEX, Seoul, Korea, April 20–23.

[33] Unemi, T. (2015) Non-Stop Evolutionary Art You are Embedded in, New Media Art Installation, *Techfest 2015*, Indian Institute of Technology, Bombay, Mumbai, India, January 2–4.

[34] Unemi, T. and Bisig, D. (2014) Visual Liquidizer or Virtual Merge #1, New Media Art Installation, *the 17th Generative Art Conference*, Biblioteca Angelica Gallery, Rome, Italy, December 17–19.

[35] Unemi, T. (2013) Non-Stop Evolutionary Art You are Embedded in, New Media Art Installation, *the 16th Generative Art Conference*, La Triennale di Milano, Milan, Italy, December 9–12.

[36] Bisig, D. and Unemi, T. (2011) Cycles, *Media Art Biennale WRO 2011 Alternative Now*, Pasaż Pokoyhof, Wroc law, Poland, May 10 – June 19.

[37] — (2010) —, *lab 30 Augsburger Kunstlabor*, Kulturthaus Abraxas, Augsburg, Germany, November 4–6.

[38] — (2010) —, *ISEA Ruhr 2010 Exhibition*, Museum für Kunst und Kulturgeschichte Dortmund, Germany, August 20 – September 5.

[39] Unemi, T. and Bisig, D. (2007) Identity SA, *The Tenth Generative Art Conference*, Politecnico di Milano University, Milan, Italy, December 12–14.

[40] Unemi, T. and Bisig, D. (2007) Flocking Orchestra, *Velocity Festival of Digital Culture*, Lanternhouse, Ulverston, UK, October 11 – November 3.

[41] Bisig, D. and Unemi, T. (2007) MediaFlies, *ArtEscapes*, Universidad Politécnica de Valencia, Valencia, Spain, April 11 – May 18.

[42] Unemi, T. and Bisig, D. (2007) Flocking Messengers, —.

[43] Unemi, T. and Bisig, D. (2007) Flocking Messengers, *Telefónica booth in ARCO 2007*, IFEMA, Madrid, Spain, February 14–19.

[44] Bisig, D. and Unemi, T. (2007) MediaFlies, *Japan Media Art Festival*, Tokyo Metropolitan Museum of Photography, Tokyo, Japan, February 24 – March 4.

[45] Unemi, T. and Bisig, D. (2006) Flocking Messengers, *The Ninth Generative Art Conference*, Politecnico di Milano University, Milan, Italy, December 13–15.

[46] Bisig, D. and Unemi, T. (2006) MediaFlies, —.

[47] Unemi, T. and Bisig, D. (2006) Flocking Orchestra, *Leonardo II Art Show*, in International Conference on Advances in Computer Entertainment, Bel Age Hotel, West Hollywood, CA, USA, June 14–16.

[48] Bisig, D. and Unemi, T. (2006) MediaFlies, —.

[49] Unemi, T. and Bisig, D. (2005) Flocking Orchestra, *The Eighth Generative Art Conference*, Politecnico di Milano University, Milan, Italy, December 15–17.

[50] Unemi, T. (2000) Works at Gerhardstrasse 5 in a rainy day of May (Computer-generated film), *Pitture Digitali*, Museo Civico di piazza del Santo, Padua, Italy, July 7 – August 27.

[51] Unemi, T. (1993) Evolution of a Simple Growth System in 2-D Euclidean Space, *A-Life World*, Tokyo International Art Museum, T-Brain Club, June 23 – August 30.

Live performances and demonstrations

[52] Unemi, T. (2016) SBArt4 breeding on site as VJ, *Algorave – Algorithmic Horizon*, Org. R. Bell, Forestlimit, Tokyo, May 27, Spazio Rita, Nagoya, May 28.

[53] Unemi, T. (2013) A Fully Automatic Evolutionary Art, *4th International Conference on Computational Creativity*, the University of Sydney, Sydney, NSW, Australia, June 14.

[54] Unemi, T. (2011) SBArt4 breeding on site, *14th Generative Art Conference*, Instituto Cervantes di Roma, Piazza Navona, Rome, Italy, December 7.

[55] Unemi, T. and Bisig, D. (2009) Identity SA, *SIGGRAPH 2009 Computer Animation Festival, Real-Time Rendering Live demonstration*, Ernest N. Morial Convention Center, New Orleans, LA, USA, August 3–6.

[56] Unemi, T. (2008) Project 7^2 – a swarm-based interactive art, Demo Party in NTT-ICC, Tokyo, January 20.

Collaborations

[57] Unemi, T. and Bisig, D. (2009) Computer-based projection for a stage effect, *Mémoires d'Oubliettes*, Contemporary Ballet, Choreographed by Jiří Kylián, Netherlands Dance Theatre I, World-premiered in Lucent Dance Theatre, The Hague, Netherlands.

[58] Unemi, T. and Bisig, D. (2009) Computer-based projection for a theater effect, *Zugvögel*, Contemporary Ballet, Choreographed by Jiří Kylián, Bavarian State Ballet, World-premiered in Bavarian State Opera, Munich, Germany.

[59] Unemi, T. and Bisig, D. (2008) Computer-based projection for a stage effect, *Gods and Dogs*, Contemporary Ballet, Choreographed by Jiří Kylián, Netherlands Dance Theatre II, World-premiered in Lucent Dance Theatre, The Hague, Netherlands. (2023), Software revision for the Paris Opera Ballet, adapted to the ARM64 machine with HD camera and projector.

[60] Unemi, T. and Bisig, D. (2008) Computer-based projection for a stage effect, *Vanishing Twin – Unfinished Works*, Contemporary Ballet, Choreographed by Jiří Kylián, Netherlands Dance Theatre I, —.

Publications

Doctor's Thesis

[61] Unemi, T. (1994) An Instance-based Reinforcement Learning Method and Its Applications to Control and Artificial Life Researches (in Japanese). Tokyo Institute of Technology.

Journal Publications

[62] Kodera, S., Ueta, H., Unemi, T., Nakata, T. and Hirata, A. (2023) Population-Level Immunity for Transient Suppression of COVID-19 Waves in Japan from April 2021 to September 2022, *Vaccines*, Vol. 11, No. 9, 1457.

[63] Broni-Bedaiko, C., Katsriku, F. A., Unemi, T., Atsumi, M., Abdulai, J.-D., Shinomiya, N., Owusu, E. (2019) El Niño-Southern Oscillation forecasting using complex networks analysis of LSTM neural networks, *Artificial Life and Robotics*, Vol. 24, No. 4, pp. 445–451.

[64] Sasaki, T., Unemi, T. (2011) Replicator dynamics in public goods games with reward funds, *Journal of Theoretical Biology*, Vol. 287, pp. 109–114.

[65] Minoya, K., Unemi, T., Suzuki, R., Arita, T. (2011) A Constructive Approach to the Evolution of the Planning Ability, *International Journal of Artificial Life Research*, Vol. 2, No. 3, pp. 22–35.

[66] Sasaki, T., Okada, I., Unemi, T. (2007) Probabilistic participation in public goods games, *Proceedings of the Royal Society – Biological Sciences*, Vol. 274, No. 1625, pp. 2639–2642.

[67] Unemi, T. (2003) Simulated Breeding – a Framework of Breeding Artifacts on the Computer, *Kybernetes*, Vol. 32, No. 1/2, pp. 203–220.

[68] Unemi, T. (2002) SBART 2.4: an IEC Tool for Creating 2D Images, Movies, and Collage, *Leonardo*, Vol. 35, No. 2, pp. 171, 189–191, MIT Press.

[69] Unemi, T. (1999) A Simple Evolvable Development System in Euclidean Space, *Lectures on Mathematics in the Life Science*, American Mathematical Society, Vol. 26, pp. 103–110.

[70] Unemi, T. (1992) An Instance-based Reinforcement Learning Method for Control not to Fail, *Journal of Japanese Society for Artificial Intelligence*, Vol. 7, No. 6, pp. 1001–1008 (in Japanese)

[71] Unemi, T. (1992) An Instance-based Reinforcement Learning Method, *Journal of Japanese Society for Artificial Intelligence*, Vol. 7, No. 4, pp. 697–707 (in Japanese)

Co-authoring Books

[72] Ueda, K. *et al* (1995) *Methods in Artificial Life*, Kougyou-chosa-kai (in Japanese)

[73] Kobayashi, S. *et al* (1990) *Intelligent Systems Handbook*, Ohm-sha (in Japanese)

Book Chapters

[74] Aesthetics, Creativity, and the Arts, for the Computer by the Computer – Toward the Evolutionary Art Theory, in Artificial Intelligence Art and Aesthetics Research Group eds. (2019) *Artificial Intelligence Art and Aesthetics Exhibition – Archive Collection*. Distributed by NADiff Online.

[75] Simulated Breeding — a Framework of Breeding Artifacts on the Computer, in A. Adamazky and M. Komosinski eds. (2005) *Artificial Life Models In Software*, and 2nd edition (2009), Springer.

[76] Artificial Life, in K. Hirota *et al* (1996) *Introduction to Intelligent Engineering*, Shōkōdō (in Japanese)

[77] Phenomena of Life in the Computer – Artificial Life, in H. Takagi, *et al* (1995) *Human and Society in the Multi-media Age*, Nikka-giren Shuppan (in Japanese)

[78] Development and Ecological Systems on Two Dimensional Euclidean Space, in I. Aizu, O. Sakura, K. Wada, T. Ikegami, T. Hoshino, H. de Garis, H. Kitano, Y. Kawaguchi, T. Unemi, and H. Iwata (1994) *Artificial Life – Crossing among Information, Life and CG*, Kyouritsu Shuppan (in Japanese)

[79] The World of Art that A-Life Creates, in T. Shibata, *et al* (1994) *Near Future of Artificial Life – The Technology to Create a New Life*, Jiji-tsūshin-sha (in Japanese)

[80] Design of User Interface (1) Multi-window systems, in F. Mizoguchi, *et al* (1987) *Science of Interface*, Kyouritsu Shuppan, pp. 111–130 (in Japanese)

[81] Introduction to Prolog, in H. Yoshino (ed) (1986) *Foundation of Law Expert Systems*, Gyousei, pp. 228–251 (in Japanese)

[82] Applications to Natural Language Processing, in F. Mizoguchi, M. Takeda, T. Unemi, and R. Mizoguchi (1985) *Prolog and the applications 2*, Souken Shuppan, pp. 185–246 (in Japanese)

Handbook/Encyclopedia Items

[83] Search and Problem Solving, in R. Suzuki *et al* (1994) *Fuzzy, Neuro, and AI Systems Handbook*, Ohm-sha (in Japanese)

[84] AI Programming, in K. Hirose *et al* (1990) *Encyclopedia of Computer Software*, Maruzen (in Japanese)

[85] Learning System, in S. Ura *et al* (1989) *Information Systems Handbook*, Baifu-kan (in Japanese)

Translations

[86] Modification of Rules, in Ichikawa, S. *et al* (1991) *Induction – Toward an Integrated Theory of Inference, Learning, and Discovery*, Shin-yō-sha, pp. 81–118. (Holland, J. H. *et al* (1986) *Induction*.)

[87] Shift of Bias for Inductive Concept Learning, in Asoh, H. *et al* (1988) *Learning Concepts and Rules*, Kyouritsu Shuppan, pp. 71–117. (Michalski, R. S. *et al* eds. (1986) *Machine Learning: An Artificial Intelligence Approach, Vol. II*.)

Refereed Conference Papers

[88] Unemi, T., Kocher, P. and Bisig, D. (2023) Interaction with a Memory Landscape, *the 26th Generative Art Conference*, December 11–13, Rome, Italy, pp. 131–136.

[89] Unemi, T., Bisig, D. and Kocher, P. (2023) Greedy Agents and Interfering Humans – An artwork making humans meddle with a life in the machine, *Proceedings of the 2023 Artificial Life Conference*, Extended abstract, July 24–28, Sapporo, Japan, 36.

[90] Unemi, T., Kocher, P. and Bisig, D. (2023) Greedy Agents and Interfering Humans, *Proceedings of the 10th Conference on Computation, Communication, Aesthetics & X (xCoAx 2023)*, July 5–7, Weimar, Germany, pp. 363–367.

[91] Unemi, T. (2022) Individual-based epidemic simulator and its visualization as generative art, *the 25th Generative Art Conference*, December 12–14, Rome, Italy, pp. 266–270.

[92] Unemi, T. (2022) Individual-based epidemic simulator with vaccination and virus variants for scenario analysis, *The 27th International Symposium on Artificial Life and Robotics*, pp. 710–715, ONLINE, January 25–27.

[93] Unemi, T., Nawata, S., Miyashita M. and Shinomiya N. (2021) Individual-based epidemic simulator, *The 26th International Symposium on Artificial Life and Robotics*, pp. 12–17, ONLINE, January 21–23.

[94] Unemi, T. (2019) Love of Evolutionary Shrimp, *the 22nd Generative Art Conference*, December 19–21, Rome, Italy, pp. 497–501.

[95] Unemi, T. and Bisig, D. (2018) 2D Generative Faces for Evolutionary Social Simulation, *the 21st Generative Art Conference*, December 18–20, Verona, Italy, pp. 415–422.

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