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KUBOTA Ryosuke

Organization	Intelligent System Engineering
Position	Associate Professor
Academic Title	Doctor(Information Engineering)
Research Fields	Computational Intelligence, Pattern Classification

<< Research Subjects >>

1. [Development of Scheduling Algorithms Based on Evolutional Computation](#)
2. [Pattern Classification/Recognition on Signal/Image Processing](#)
3. [Achievement of Effective Search Algorithm on Evolutional Computation](#)

<< Academic Activities >>

Papers and Notes

1. [Yoshiaki Ueda, Keiichi Horio, and Ryosuke Kubota: "A Modified Real-Coded Genetic Algorithm Considering with Fitness-based Variability", International Journal of Innovative Computing, Information and Control (IJICIC), Vol.10, No.4, (accepted), Aug., 2014.](#)
2. [Ryosuke Kubota and Hakaru Tamukoh: "A Particle Swarm Optimization Using Combined Information on Personal Best Positions", Innovative Computing, Information and Control Express Letters (ICIC-EL), Vol.8, No.8, (accepted), Aug., 2014.](#)
3. [Ryosuke Kubota, Noriaki Suetake: "Random-Valued Impulse Noise Removal Based on Component-Wise Noise Detector with Auto-Tuning Function and Vector Median Interpolation", Journal of the Franklin Institute, Vol.348, No.9, pp.2523-2538, (2011)](#)
4. [Shudai Ishikawa, Hideaki Misawa, Ryosuke Kubota, Tatsuji Tokiwa, Keiichi Horio, Takeshi Yamakawa: "Multi-space Competitive DGA for Model Selection and Its Application to Localization of Multiple Signal Sources", Journal of Advanced Computational Intelligence and Intelligent Informatics (JACIII), Vol.15, No.9, pp.1320-1328, (2011)](#)
5. [Noriaki Suetake, Ryosuke Kubota, and Eiji Uchino: "Random-valued Impulse Noise Detection Considering Color Distance and Correlation among RGB Components," International Journal of Innovative Computing, Information and Control (IJICIC), Vol.7, No.5, (in press), May 2011.](#)
6. [Ryosuke Kubota, Noriaki Suetake: "Distribution Distance-based Threshold Auto-tuning Method for Switching Median Filter," IEICE Electronics Express (ELEX), Vol.7, No.17, pp.1310-1316, Sep. 2010.](#)
7. [Eiji Uchino, Noriaki Suetake, Takanori Koga, Ryosuke Kubota, Shohei Ichiyama, Genta Hashimoto, Takafumi Hiro, and Masunori Matsuzaki: "Fuzzy Inference-based Plaque Boundary Extraction Using Image Separability for Intravascular Ultrasound Image of Coronary Artery," Electronics Letters, Vol.45, No.9, pp.451-453, (2009)](#)
8. [Ryosuke KUBOTA, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Polynomial-based Boundary Extraction of Plaque in Intravascular Ultrasound Image by Using It's Local Statistical Information," Innovative Computing, Information and Control Express Letters (ICIC-EL), Vol.2, No.4, pp.387-393, (2008)](#)
9. [Ryosuke KUBOTA, Eiji UCHINO, Noriaki SUETAKE: "Hierarchical k-nearest Neighbor Classification Using Feature and Observation Space Information," IEICE Electronics Express (ELEX), Vol.5, No.3, pp.114-119, (2008)](#)
10. [Ryosuke KUBOTA, Mami KUNIHIRO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "An Intravascular Ultrasound-based Tissue Characterization Using Shift-invariant Features Extracted by Adaptive Subspace SOM," International Journal of Biology and Biomedical Engineering, Vol.2, No.2, pp.79-88, (2008)](#)
11. [Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: "Binary Self-Organizing Map with Modified Updating Rule and Its Application to Reproduction of Genetic Algorithm," IEICE Transactions on Information and Systems, Vol.E90-D, No.1, pp.382-383, (2007)](#)
12. [Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: "Reproduction Strategy Based on Self-Organizing Map for Genetic Algorithms," International Journal of Innovative Computing, Information and Control (IJICIC), Vol.1, No.4, pp.595-607, (2005)](#)

13. Ryosuke KUBOTA, Takeshi YAMAKAWA, and Keiichi HORIO: "Reproduction Strategy Based on Self-Organizing Map for Real-coded Genetic Algorithms," Neural Information Processing - Letters and Reviews (NIP-LR), Vol.5, No.2, pp.27-32, (2004)

Books

1. Ryosuke Kubota, Shohei Ichiyama, Noriaki Suetake, Eiji Uchino, Genta Hashimoto, Takafumi Hiro, and Masunori Matsuzaki: "Plaque Boundary Extraction in Intravascular Ultrasound Image in Conjunction with Image Separability and Fuzzy Inference," In "Trends in Communication Technology and Engineering Science (Lecture Notes in Electrical Engineering, Vol.33)," pp.139-150, Springer-Verlag, 2009
2. Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: Genetic Algorithm with Modified Reproduction Strategy Based on Self-Organizing Map and Usable Schema, in "International Congress Series 1291: Brain-Inspired IT II," pp.169-172, Elsevier Science, 2006
3. Takeshi YAMAKAWA, Keiichi HORIO, Ryosuke KUBOTA: A SOM Association Network, in "Advanced in Self-Organizing Maps." pp.15-20, Springer-Verlag, 2001

Presentations

1. Ryosuke Kubota, Keisuke Onaga and Noriaki Suetake: "Switching Median Filter with Signal Dependent Thresholds Designed by Using Genetic Algorithm", Proceedings of the 9th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP 2014), pp. 222-227, Lisbon, Portugal, Jan. 5-8, 2014.
2. Hakaru Tamukoh, Hideaki Kawano, Noriaki Suetake, Ryosuke Kubota, Byungki Cha and Takashi Aso: "Fuzzy-Rule-Embedded Reduction Image Construction Method for Image Enlargement with High Magnification", Proceedings of the 9th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP 2014), pp. 228-233, Lisbon, Portugal, Jan. 5-8, 2014.
3. Shudai Ishikawa, Yoshiaki Ueda, Ryosuke Kubota, Keiichi Horio and Takeshi Yamakawa: "Signal Sources Localization Using GA Preserving Genetic Diversity Based on Fitness Values", Proceedings of The 2013 International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS 2013), pp.718-721, Okinawa, Japan, Nov. 12-15, 2013.
4. Yoshiaki Ueda, Noriaki Suetake, Keiichi Horio and Ryosuke Kubota: "A Variability-based Adaptive Mutation Operator for Interactive Genetic Algorithm ", Proceedings of The 14th International Symposium on Advanced Intelligent Systems (ISIS2013), in USB Proceedings (6 pages), Daejeon, Korea, Nov. 13-16, 2013.
5. Yoshiaki Ueda, Yohei Kuramoto, Ryosuke Kubota, Noriaki Suetake, Eiji Uchino: "An Interactive Genetic Algorithm-based Image Sharpening System Considering User's Liking", Proceedings of 2013 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2013), pp.91-96, Singapore, Apr.16-19 (2013)
6. Ryosuke Kubota, Hakaru Tamukoh: "A Modified Particle Swarm Optimization Considering Component Combined with Personal Best Positions", Proceedings of 7th WSEAS International Conference on Circuits, Systems, Signal and Telecommunications (CSST'13), pp. 55-58, Milan(Italy), Jan. 9-11 (2013)
7. Keisuke Onaga, Ryosuke Kubota, Keiichi Horio: "Switching Median Filter with Signal Dependent Thresholds Designed by Using Noise Probability Distribution", Proceedings of The 2012 International Workshop on Smart Info-Media Systems in Asia (SISA2012), pp. 16-19, Bangkok(Thailand), Sep. 6-8 (2012)
8. Yoshiaki. Ueda, Ryosuke Kubota, Noriaki Suetake: "A Modified Selection Operator Considering with Fitness-based Variability in Real-coded Genetic Algorithm", Proceedings of The 2012 International Workshop on Smart Info-Media Systems in Asia (SISA2012), pp. 156-161, Bangkok(Thailand), Sep. 6-8 (2012)
9. Ryosuke Kubota, Noriaki Suetake: "Switching Vector Median Filter with Component-wise Noise Detector by Using Noise Distribution", Proceedings of The International Workshop on Advanced Image Technology (IWAIT2012), pp. 604-608, Ho Chi Minh City(Vietnam), Jan. 9-10 (2012)
10. Eiji Uchino, Noriaki Suetake, Ryosuke Kubota, Takanori Koga, Takafumi Hiro, Masunori Matsuzaki: "Tissue Characterization of Coronary Plaque by Soft Computing for the Diagnosis of Arteriosclerosis", Proceedings of the 2012 International Symposium on Semiconductor Manufacturing Intelligence (ISMI2012), CD-ROM (6pages), Hsinchu(Taiwan), Jan. 6-8 (2012)
11. Ryosuke Kubota, Yoshiaki Ueda: "Self-Organizing Map-based Reproduction with Visualization of Search Process in Real-coded Genetic Algorithm," Proceedings of The 12th International Symposium on Advanced Intelligent Systems (ISIS2011), pp.350-353, Suwon(Korea), Sep. 28—Oct. 1, (2011)
12. Ryosuke Kubota, Noriaki Suetake: "Threshold Tuning of Switching Median Filter Employing Distribution Distance." Proceedings of The 4th Pacific-Rim Symposium on Image and Video Technology (PSIVT2010), pp.427-431, (Singapore)Singapore, Nov. 14-17 (2010)
13. Multi-space Competitive DGA and Its Application to Localization of Multiple Signal Sources
14. Ryosuke Kubota, Youhei Kawamura, Noriaki Suetake, Eiji Uchino: "Tone Quality Improvement of Bone Conduction Voice by Cepstrum-based Local Conversion Models." Proceedings of The 11th WSEAS International Conference on Multimedia Systems and Signal Processing (MUSP'11), pp.74-78, (Venice)Italy, Mar. 8-10 (2011)
15. Ryosuke Kubota, Noriaki Suetake, and Eiji Uchino: "Random-valued Impulse Noise Detection Based on Color Distance on CIELAB and RGB Color Spaces," Proceedings of The International Workshop on Advanced Image Technology (IWAIT2010), in CD-ROM, Kuala Lumpur(Malaysia), Jan. 11-12 (2010)
16. Eiji UCHINO, Noriaki SUETAKE, Ryosuke KUBOTA, Takanori KOGA, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "An ROC Performance Validation of Hierarchical k-Nearest Neighbor Classifier Applied to Tissue Characterization Using IVUS-RF Signal," Proceedings of The 2009 RISP International Workshop on Nonlinear Circuits and Signal Processing (NCSP'09), pp.333-336, (Waikiki)Hawaii, Mar. 1-3 (2009)
17. Ryosuke KUBOTA, Takuya OKAMOTO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Discrete Genetic Algorithm with Laplacian of Gaussian-based Edge Detector for Plaque Boundary Extraction in Intravascular Ultrasound Image," Proceedings of The 2009 RISP International Workshop on Nonlinear Circuits and Signal Processing (NCSP'09), pp.329-332, (Waikiki)Hawaii, Mar. 1-3 (2009)
18. Ryosuke KUBOTA, Eiji UCHINO, Noriaki SUETAKE, Mami KUNIHIRO: "A Code Vector Conversion Model for Bone and Air Conduction Voices by Using Self-Organizing Map with Additional Learning," Proceedings of The 2009 RISP International Workshop on Nonlinear Circuits and Signal Processing (NCSP'09), pp.109-112, (Waikiki)Hawaii, Mar. 1-3 (2009)
19. Tadahiro AZETSU, Eiji UCHINO, Ryosuke KUBOTA, Noriaki SUETAKE: "Feature Extraction and Signal Reconstruction of Air and Bone Conduction Voices by Independent Component Analysis," Proceedings of The 2008 IAENG International Conference on Artificial Intelligence and Applications (ICAIA2008), pp.55-59, (Hong Kong)China, Mar. 19-21 (2008)
20. Ryosuke KUBOTA, Shohei ICHIYAMA, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori

MATSUZAKI: "Fuzzy Rule-based Boundary Extraction of Plaque in Intravascular Ultrasound Image," Proceedings of The 2008 IAENG International Conference on Imaging Engineering (ICIE2008), pp.597-600, (Hong Kong)China, Mar. 19-21 (2008)

21. Ryosuke KUBOTA, Mami KUNIHIRO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Feature Extraction of Intravascular Ultrasound Signal for Tissue Characterization by Using Adaptive Subspace Self-Organizing Map," Proceedings of Joint 4rd International Conference on Soft Computing and Intelligent Systems and 8th International Symposium on Advanced Intelligent Systems (SCIS&ISIS 2008), pp.1096-1099, (Nagoya)Japan, Sep. 17-21 (2008)

22. Ryosuke KUBOTA, Mami KUNIHIRO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Statistical Tissue Characterization of Coronary Plaque by ASSOM Using Intravascular Ultrasound Method." Recent Advances in System Science and Simulation in Engineering: Proceedings of The 7th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE'08), pp.85-90, (Venice)Italy, Nov. 21-23 (2008)

23. Ryosuke KUBOTA, Eiji UCHINO, Noriaki SUETAKE, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Genetic Algorithm-based Boundary Extraction of Plaque in Intravascular Ultrasound Image," Recent Advances in System Science and Simulation in Engineering: Proceedings of The 7th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE'08), pp.91-94, (Venice)Italy, Nov. 21-23 (2008)

24. Ryosuke KUBOTA, Takuya OKAMOTO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Boundary Extraction of Plaque in Intravascular Ultrasound Image by Using Weighted Least Square Method with Statistical Discriminant Criterion." Proceedings of Biomedical Fuzzy Systems Association (BMFSA) 2007 International Conference on Soft Computing and Human Sciences (SCHS2007), pp. 189-192, (Kitakyushu)Japan, Aug. 2-5 (2007)

25. Ryosuke KUBOTA, Mami KUNIHIRO, Noriaki SUETAKE, Eiji UCHINO, Genta HASHIMOTO, Takafumi HIRO, Masunori MATSUZAKI: "Intravascular Ultrasound-based Tissue Classification of Coronary Plaque into Fibrosis or Lipid by k-Nearest Neighbor Method," Proceedings of Biomedical Fuzzy Systems Association (BMFSA) 2007 International Conference on Soft Computing and Human Sciences (SCHS2007), pp. 93-96, (Kitakyushu)Japan, Aug. 2-5 (2007)

26. Eiji UCHINO, Noriaki SUETAKE, Ryosuke KUBOTA, Genta HASHIMOTO, Takafumi HIRO, and Masunori MATSUZAKI: "Advanced LVQ with Use of Neighborhood Information on Data Measurement Points and Its Application to IVUS Data," Proceedings of Joint 3rd International Conference on Soft Computing and Intelligent Systems and 7th International Symposium on Advanced Intelligent Systems (SCIS&ISIS 2006), pp.593-597, (Meguro)Japan, Sep. 20-24 (2006)

27. Satoshi SONOH, Keiichi HORIO, Ryosuke KUBOTA, Takeshi YAMAKAWA: "An Improvement of Selection Strategy Using Self-Organizing Maps with Two Type Input Vectors as Reinforcer/Punisher," Proceedings of Joint 3rd International Conference on Soft Computing and Intelligent Systems and 7th International Symposium on Advanced Intelligent Systems (SCIS&ISIS 2006), pp.578-582, (Meguro)Japan, Sep. 20-24 (2006)

28. Takeshi YAMAKAWA, Ryosuke KUBOTA, Shinichiro TSUTSUI: "An Advanced Self-Organizing Map with Tree-Structure Type Input", Proceedings of 5th POSTECH-KYUTECH Joint Workshop on Neuroinformatics, pp. 26-27, (Pohang)Korea, Aug. 23-24 (2005)

29. Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: "Binary SOM Based on Significance of Inputs and Its Application to Reproduction of GA," Proceedings of Workshop on Self-Organizing Maps 2005 (WSOM'05), pp.211-218, (Paris)France, Sep. 5-9 (2005)

30. Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: "Genetic Algorithm with Reproduction Strategy Based on Binary Self-Organizing Map", Proceedings of 5th POSTECH-KYUTECH Joint Workshop on Neuroinformatics, pp. 30-31, (Pohang)Korea, Aug. 23-24 (2005)

31. Ryosuke KUBOTA, Keiichi HORIO, Takeshi YAMAKAWA: "Optimal Design of Reproduction Strategy in Real-coded Genetic Algorithm Using Self-Organizing Map," Proceedings of International Conference on Neuro-Computing and Evolving Intelligence 2004 (NCEI'04), pp. 26-27, (Auckland)New Zealand, Dec. 13-15 (2004)

32. Takeshi YAMAKAWA, Keiichi HORIO, Ryosuke KUBOTA: "Modified Adaptive Subspace Self-Organizing Map and its Application to Speaker Classification," Proceedings of 6th International Conference on Soft Computing and Information/Intelligent Systems (IIZUKA2000), pp. 215-220, (Iizuka)Japan, Oct. 1-4 (2000)