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List of Publications (10 May 2021)

G. Ford, B. Foster, M. Liston and M. Kam: "Unknown Signal Detection in Interference and Noise using Hidden Markov Models," Proceedings of the 2021 IEEE Statistical Signal Processing Workshop (SSP), Rio de Janeiro, July 2021.

W. Dong and M. Kam: "Parallel Decision Fusion with Local Constraints," Proceedings of the 55th Annual Conference on Information Sciences and Systems (CISS), Johns Hopkins University, Baltimore, MD, March 2021.

W. Dong and Moshe Kam: "Dependent Randomization in Parallel Binary Decision Fusion," *IEEE/CAA Journal of Automatica Sinica*, 8(2), 361-376, 2021.

P. Abichandani, D. Lobo, G. Ford, D. Bucci and M. Kam: "Wind Measurement and Simulation Techniques in Multi-Rotor Small Unmanned Aerial Vehicles," *IEEE Access*, vol. 8, pp. 54910-54927, 2020, doi: 10.1109/ACCESS.2020.2977693.

Ludvik Alkhoury, Ji-won Choi, Chizhong Wang, Arjun Rajasekar, Sayandeep Acharya, Sean Mahoney, Barry S. Shender, Leonid Hrebien and Moshe Kam: "Heart-rate tuned comb filters for processing photoplethysmogram (PPG) signals in pulse oximetry," *Journal of Clinical Monitoring and Computing* (2020). <https://doi.org/10.1007/s10877-020-00539-2>

R. Rajasekar; S. Acharya; B. S. Shender; C. Rorres; L. Hrebien; M. Kam: "Correlation of Cognitive Scores and the Onset of Hypoxia", *Aerospace Medicine and Human Performance*, Vol. 90, No. 5, pp. 429-439, May 2019.

Ji-won Choi, Chizhong Wang, Leonardo F. Urbano, Puneet Masson, Matthew VerMilyea, and Moshe Kam: Classification and Clustering of Human Sperm Swimming Patterns, Proceedings of the 2018 IEEE 3rd International Conference on Signal and Image Processing, pp. 192-196, 2018.

Chizhong Wang; Ji-won Choi; Leonardo F. Urbano; Puneet Masson; Matthew VerMilyea ; Moshe Kam: Tracking of Human Sperm in Time-Lapse Images, Proceedings of the 2018 IEEE 3rd International Conference on Signal and Image Processing, pp. 197-201, 2018.

A.D. Borgaonkar, J. Sodhi, M. Kam, and S-H Hou: Impact of initiatives for helping first year students start on track in mathematics sequence. Proceedings of the ASEE Annual Conference and Exposition, 2018.

A.D. Borgaonkar, J. Sodhi, S-H Hou, and M. Kam: An application-oriented course to improve student performance in mathematics courses. Proceedings of the ASEE Annual Conference and Exposition, 2018.

L. Fridman; S. Weber; R. Greenstadt; M. Kam: "Active Authentication on Mobile Devices via Stylometry, Application Usage, Web Browsing, and GPS Location," *IEEE Systems Journal*, Vol. 11, No. 2, pp. 513-521, June 2017.

S. Acharya; R. Arjun; B. S. Shender; L. Hrebien; M. Kam: "Real-Time Hypoxia Prediction Using Decision Fusion," *IEEE Journal of Biomedical and Health Informatics*, Vol. 21, No. 3, May 2017.

L. F. Urbano; P. Masson; M. VerMilyea; M. Kam: "Automatic Tracking and Motility Analysis of Human Sperm in Time-Lapse Images," *IEEE Transactions on Medical Imaging*, Vol. 36, No. 3, pp. 792-801, March 2017.

R. Measel; C. S. Lester; D.J. Bucci; K. Wanuga; G. Tait; R. Primerano; K. R. Dandekar; M. Kam: "An Empirical Study on the Performance of Wireless OFDM Communications in Highly Reverberant Environments," *IEEE Transactions on Wireless Communications*, Vol. 15, No. 7, pp. 4802-4812, July 2016.

F. Xiong; M. Kam; L. Hrebien; B. Wang; Yanjun Qi: "Kernelized Information-Theoretic Metric Learning for Cancer Diagnosis Using High-Dimensional Molecular Profiling Data," *ACM Transactions on Knowledge Discovery from Data*, Vol. 10, No. 4, Article 38, May 2016.

C. S. Lester; D. J. Bucci; R. Measel; K. Wanuga; R. Primerano; K. R. Dandekar; M. Kam: "Performance of Reconfigurable Antennas in a Below-Decks Environment," *IEEE Antennas and Wireless Propagation Letters*, Vol. 14, pp. 1093-1096, 2015.

S. Acharya; A. Rajesekar; M. Kam: "Pulse oximeter signal fusion for robust hypoxia detection," *Aerospace Medicine and Human Performance*, Vol. 86, No. 5, pp. 495-496, 2015.

K. Wanuga; R. Measel; C. S. Lester; D. J. Bucci; D. Gonzalez; R. Primerano; K. R. Dandekar; M. Kam: "Performance Evaluation of MIMO OFDM Systems in On-Ship Below-Deck Environments," *IEEE Antennas and Wireless Propagation Letters*, Vol. 13, pp. 173-176, 2014.

M. Bielinski; G. Sosa; K. Wanuga; R. Primerano; K.R. Dandekar; M. Kam: "Bit-Loaded PAPR Reduction for High-Data-Rate Through-Metal Control Network Applications," *IEEE Transactions on Industrial Electronics*, Vol. 61, No. 5, pp. 2362-2369, May 2014.

[Book] P. Abichandani; H. Benson; M. Kam: "Mathematical Programming Approaches for Multi-Vehicle Motion Planning: Linear, Nonlinear, and Mixed Integer Programming," Boston-Delft: Now Publishers, *Foundations and Trends in Robotics* series, Vol. 2, No. 4, pp. 80, November 2013.

A. Fridman; A. Stolerman; S. Acharya; P. Brennan; P. Juola; R. Greenstadt; M. Kam: "Decision Fusion for Multimodal Active Authentication," *IEEE IT Professional*, Vol. 15, No. 4, pp. 29-33, July- Aug 2013.

P. Abichandani; H. Benson; M. Kam: "Robust communication connectivity for multi-robot path coordination using Mixed Integer Nonlinear Programming: Formulation and feasibility analysis," 2013 *Proceedings of the IEEE International Conference Robotics and Automation*, pp. 3600-3605, May 2013.

R. Canzanese; S. Mancoridis; M. Kam: "Multi-channel Change-Point Malware Detection," *Proceedings of the 2013 IEEE 7th International Conference on Software Security and Reliability (SERE)*, pp.70-79, June 2013.

K. Wanuga; M. Bielinski; R. Primerano; K.R. Dandekar; M. Kam: "High-data-rate ultrasonic through-metal communication," *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, Vol. 59, No. 9, pp. 2051-2053, September 2012

B. Magda; W. Kevin; S. Guillermo; P. Richard; D. Kapil; M. Kam: "Transceiver Design for High Data Rate Through Metal Communication in Naval Applications, *Proceedings of the ASNE Fleet Maintenance & Modernization Symposium (FMMS) 2012*, Virginia Beach Convention Center, VA, Sept 2012.

A. Fridman; S. Weber; C. Graff; D. Breen; K. Dandekar; M. Kam: "OMAN: A Mobile Ad Hoc Network Design System," *IEEE Transactions on Mobile Computing*, Vol. 11, No. 7, pp. 1179-1191, July 2012.

P. Abichandani; G. Ford; H. Y. Benson; M. Kam: "Mathematical Programming for Multi-Vehicle Motion Planning Problems," *Proceedings of the IEEE Conference on Robotics and Automation (ICRA)*, St. Paul, MN, May 2012.

A. Gerber; S. Sinha; A. van der Merwe; M. Kam: "Accreditation of Academic Programs in Computing in South Africa," *The 4th Software Engineering Colloquium (SE)*, pp.7-10, May 2012.

D. Hamel; M. Chwastek; S. Garcia; B. Farouk; K. R. Dandekar; M. Kam: "Sensor Placement for Urban Homeland Security Applications," *International Journal of Distributed Sensor Networks*, Vol. 2010, Article ID 859263, pp. 15, 2010.

E. Stehle; M. Shevertalov; P. deGrandis; S. Mancoridis; M. Kam: " Perception of utility in

autonomic VoIP systems," *International Journal on Advances in Intelligent Systems*, Vol. 2, No 1, pp. 92 – 106, 2009.

R. Achuthanandam; J. Quinn; R.J. Capocasale; P.J. Bugelski; L. Hrebien; M. Kam: "Sequential univariate gating approach to study the effects of erythropoietin in murine bone marrow," *Cytometry Part A*, Vol. 73, No. 8, pp. 702-14, 2008.

J. Quinn; P. W. Fisher; R. Capocasale; R. Achuthanandam; P. Bugelski; L. Hrebien; M. Kam: "A Statistical Pattern Recognition Approach for Determining Cellular Viability and Lineage Phenotype in Cultured Cells and Murine Bone Marrow," *Cytometry Part A*, Vol. 71, Issue 8, pp. 612–624, August 2007.

Loo; S. Roberts; L. Hrebien; M. Kam: "New criteria for selecting differentially expressed genes, *IEEE Engineering in Medicine and Biology Magazine*," Vol. 26, Issue 2, pp. 17-26, March- April 2007.

M. Wang; N. Kandasamy; A. Guez; M. Kam: "Distributed Cooperative Control for Adaptive Performance Management," *IEEE Internet Computing*, Vol. 11, Issue 1, pp 31-39, Jan.-Feb 2007.

J. Kopena; E. Sultanik; G. Naik; I. Howley; M. Peysakhov; V. Cicirello; W. Regli; M. Kam: "Service-Based Computing on Manets: Enabling Dynamic Interoperability of First Responders," *IEEE Intelligent Systems*, Vol. 20, Issue 5, pp. 17-25, Sep-Oct 2005.

B. Hipszer; J. Joseph; M. Kam: "Pharma kinetics of Intravenous Insulin Delivery in Humans with Type I Diabetes, *Diabetes Technology and Therapeutics*," No. 1, pp. 83-93, February 2005.

Canzanese, R., Oyer, M., Mancoridis, S., & Kam, M. (2005). A Survey of Reverse Engineering Tools for the 32-Bit Microsoft Windows Environment. Drexel University. Full-text available at https://www.researchgate.net/publication/270960218_A_survey_of_reverse_engineering_tools_for_the_32-bit_Microsoft_Windows_environment

V. Cicirello; M. Peysakhov; G. Anderson; N. Gaurav; K. Tsang; W. Regli; M. Kam: "Designing dependable agent systems for mobile wireless networks, *IEEE Intelligent Systems*," Vol. 19, No. 5, pp. 39-45, Sep- Oct 2004.

X. Zhu; Y. Yuan; C. Rorres; M. Kam: "Distributed M-ary hypothesis testing with binary local decisions," *Information Fusion*, Vol. 5, pp. 157-167, 2004.

Y. Yuan; M. Kam: "Distributed Decision Fusion with a Random –access Channel for Sensor Network Applications," *IEEE Transactions on Instrumentation and Measurement*, Vol. 53, No. 4, pp. 1339 – 1344, August 2004.

L. Loo, L. Hrebien, M. Kam: "New Data Analysis Approach in Functional Genomics and Proteomics," *Aviation, Space, and Environmental Medicine*, Vol. 74, No. 10, pp. 1116, October 2003.

E. Lin; M. Kam: "Writer Identification using Hand-Printed and Non-Hand-Printed Questioned Documents," *Journal of Forensic Science*," Vol. 48, No. 6, pp. 1391-1395, November 2003.

D. Tack; S. Siegler; M. Kam: "Neck Flexibility Tester," *IEEE Transactions on Biomedical Engineering*, Vol. 49, No. 4, pp. 12, April 2002.

G. Fielding; M. Kam: "Disparity Maps for Dynamic Stereo," *Pattern Recognition*, Vol. 43, pp. 531-545, 2001.

G. Fielding; K. Gummadidala; R. Conn; M. Kam: "Signature Authentication by Forensic Document Examiners," *Journal of Forensic Sciences*, pp. 884-888, July 2001.

G. Fielding; M. Kam: "Computing the Cost of Occlusions," *Computer Vision, Image, and Graphics Processing: Image Understanding*, Vol. 79, pp. 324-329, August 2000.

G. Fielding; M. Kam: "Weighted Matchings for Dense Stereo Correspondence," *Pattern Recognition*, Vol. 33, No. 9, pp. 1511-1524, September 2000.

C. Rorres, W. Chang, X. Zhu; M. Kam: "Performance and Geometric Interpretation for Decision Fusion with Memory," *IEEE Transactions on Systems, Man, and Cybernetics Part A*, Vol. 29, No. 1, pp. 52-62, January 1999.

J. Prosser, H.G. Kwatny; M. Kam: "Online supervisor synthesis for partially observed discrete-event systems," *IEEE Transactions on Automatic Control*, Vol. 43, No. 11, pp. 1630 –1634, November 1998.

R. Conn; M. Kam: "Robot Navigation on N-dimensional Star Worlds Among Moving Obstacles," *IEEE Transactions on Robotics and Automation*, Vol. 14, No. 2, pp. 320 - 325, 1998.

G. Fielding; R. Conn; M. Kam: "Effects of Monetary Incentives on Performance of Nonprofessionals in Document-examination Proficiency Tests," *Journal of Forensic Sciences*, Vol. 43, No. 5, pp. 1000-1004, 1998.

G. Fielding; R. Conn; M. Kam: "Writer Identification by Professional Document Examiners," *The Journal of Forensic Sciences*, Vol. 42, No. 5, pp. 778-786, September 1997.

R. Conn; J. Elenes; M. Kam: "A Counterexample to the Alexopoulos-Griffin Path Planning Algorithm," *IEEE Transactions on Systems, Man, and Cybernetics, Part B*, No. 4, August 1997.

C. Glagola; M. Loui; C. Whitebeck; M. Kam: "Teaching Ethics in Engineering and Computer Science: A Panel Discussion," *Science and Engineering Ethics*, Vol. 3, Issue 4, pp. 18, 1997.

R. Conn; M. Kam: "On the Moving-obstacle Path-planning Algorithm of Shih, Lee and Gruver," *IEEE Transactions on Systems, Man and Cybernetics, Part B*, No. 1, February 1997.

X. Zhu; P. Kalata; M. Kam: "Sensor Fusion for Mobile Robot Navigation," *Proceedings of the IEEE*, Vol. 87, No. 1, pp. 108-119, January 1997.

A. Cohen; R. Conn; M. Kam: "Partitioning a Sample Using Binary-Type Questions with Ternary Feedback," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 25, No. 10, pp. 1405-1408, October 1995.

J. Prosser; J. Selinsky; H. Kwatny; M. Kam: "Supervisory Control of Electric Power Transmission Networks," *IEEE Transactions on Power Systems*, Vol. 10, No. 2, pp. 1104-1110, May 1995.

W. Chang; M. Kam: "Asynchronous Distributed Detection," *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 30, No. 3, pp. 818-825, July 1994.

A. Goffer; P. Herczfeld; M. Kam: "Design of Phased Arrays Using Random Divisions into Subarrays," *IEEE Transactions on Antennas and Propagation*, Vol. 42, No. 6, June 1994.

A. Naim; M. Kam: "On-line Estimation of Probabilities for Distributed Bayesian Detection," *Automatica*, Vol. 30, No. 4, pp. 633-641, April 1994.

J. Wetstein; R. Conn; M. Kam: "Proficiency of Professional Document Examiners in Writer Identification," *Journal of Forensic Science*, JFSCA, Vol. 39, No. 1, pp. 5-14, January 1994.

J-C. Chow; Q. Zhu; R. Fischl; M. Kam: "Design of Decision Fusion Rule for Power System Security Assessment," *IEEE Transactions on Power Systems*, Vol. 7, No. 3, pp. 858-864, August 1993.

W. Chang; C. Rorres; M. Kam: "Systems of Random Mappings with a Common Fixed Point," *International Journal of System Science*, Vol. 23, No. 11, pp. 2113-2119, November 1992.

Q. Zhu; W.S. Gray; M. Kam: "Optimal Data Fusion of Correlated Local Decisions in Multiple Sensor Detection Systems," *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 28, No. 3, pp. 916-920, July 1992.

Q. Zhu; W. Chang; M. Kam: "Hardware Complexity of Binary Distributed Detection Systems with Isolated Local Bayesian Detectors," *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 21, No. 3, pp. 565-571, May 1991.

A. Goffer; P. Herczfeld; M. Kam: "Wide Bandwidth Optical Phased Array Based on Remote Coding Configuration," *IEEE Transactions on Microwave Theory and Techniques*, Vol. 39, No. 7, pp. 1216-1219, July 1991.

A. Guez; J. L. Eilbert; M. Kam: "Computational-Complexity Reduction for Neural Network Algorithms," *IEEE Transactions on Systems, Man, and Cybernetics*, Volume 19, No. 2, pp. 409-414, March - April 1989.

R. Cheng; A. Guez; M. Kam: "Pattern Retrieval and Learning in Nets of Asynchronous Binary Threshold Elements," *IEEE Transactions on Circuits and Systems*, Vol. 36, No. 3, pp. 353-364, March 1989.

J. Wilcox; P. Herczfeld; M. Kam: "Design for Steering Accuracy in Antenna Arrays Using Shared Optical Phased-Shifters," *IEEE Transactions on Antennas and Propagation*, Vol. 37, No. 9, pp. 1102-1108, September 1989.

A. Guez; J. Eilbert; M. Kam: "Neural Network Architecture for Control," *IEEE Control System Magazine*, pp. 22-25, April 1988.

P. Kalata; M. Kam: "The Gaussian Nonlinearity's Power Spectral Density Due to a Sinusoid Plus Band-Limited Noise," *IEEE Transactions on Information Theory*, Vol. 32, No. 4, pp. 597-601, July 1986.