

Mutlu Mete

Texas A&M University-Commerce
Department of Computer Science & Information Systems
(903)-886-5497
Email: Mutlu.Mete@tamuc.edu

Education

Ph.D., University of Arkansas at Little Rock, 2008

Major: Applied Science

Areas of Emphasis: Applied Computing

Dissertation Title: Delineation of Malignant Areas in Histological Images of Head and Neck Cancer

TEACHING

Teaching Experience

Texas A&M University-Commerce

Number of Times Taught

CSCI 126 Microcomputer Applications	1
CSCI 489 Parallel Computing in Bioinformatics	1
CSCI 490 Honor Thesis	1
CSCI 491 Honor Readings	1
CSCI 497/597 Programming Mobile Devices	7 (undergraduate) / 4 (graduate)
CSCI 515 Fundamentals of Programming	13
CSCI 518 Thesis	9
CSCI 526 Database Systems	12
CSCI 595 Introduction to Human Computer Interaction Design	6
CSCI 595 Research Literature & Techniques	5
CSCI 589 Internship	1
CSCI 597/560 Neural Networks	4

University of Arkansas at Little Rock

BIOINF 497 Introduction to Bioinformatics	1
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Directed Student Research and Learning

1. Master's Thesis Committee Chair, "Independent Component Analysis of fMRI of Cocaine Addicted Patients," Department of Computer Science (January 2012 – August 2013).
Advised: Anilkrishna Bandapelli.
2. Master's Thesis Committee Chair, "A Image Processing Library for Virtual Slides" Department of Computer Science (November 2011 – December 2012).
Advised: Krishnakanth Komanduri

3. Undergraduate Honors Thesis, "Evaluation of Skin Lesions: An Image Application for Android Platform," Department of Marketing & Management (March 2011 – September 2012).
Advised: Judah Meek
4. Master's Thesis Committee Member, "Competitive Evolution Using Liquid Computation," Department of Computer Science (January 15, 2011 – June 2011)
Advised: Anunay Pandey
5. Master's Thesis Committee Member, "Active contour on the Exact solution of the active convex Hull Model Working with noise," Department of Computer Science (August 2010 - August 2011)
Advised: Surendra Chakrader Nara
6. Master's Thesis Committee Chair, "GPU-based Independent Component Analysis," Department of Computer Science (November 2011 – December 2012)
Advised: Salih Turk
7. Master's Thesis Committee Member, "Huge numbers multiplication: a comparison of Single processor and multiple processor Implementation", Department of Computer Science (November 2011 – December 2012)
Advised: Song Huang
8. Master's Thesis Committee Member, "Object tracking in video sequence using shrinking active contour as a measuring tool," Department of Computer Science (May 2012 – May 2013)
Advised: Pravinkumar G. Kandhare
9. Master's Thesis Committee Chair, "A compact implementation of ICA algorithm using GPUs in Java," Department of Computer Science (June 2013 – May 2014)
Advised: Harish Ankam
10. Master's Thesis Committee Chair, " Software Toolbox for Multivariate Pattern Analysis of Different Brain States from Functional Magnetic Resonance Imaging Data," Department of Computer Science (November 2013 – August 2014)
Advised: Kushal Bohra
11. Master's Thesis Committee Chair, " DynaConn: A Software for Analyzing Brain's Dynamic Functional Connectivity from fMRI Data," Department of Computer Science (November 2013 – August 2014)
Advised: Johnny Esquivel
12. Undergraduate Honors Thesis, "An Android App: A Tool for Texas A&M University-Commerce Students," Department of Industrial Engineering (March 2014 – Present).
Advised: Trey Harris

Awards and Honors

Teaching Excellence at Texas A&M Commerce, TAMU System. (November 2011).

RESEARCH

Published Intellectual Contributions (TAMU-C,* show the publications produced while I am TAMU-C)

Book Chapters

1. S. Kockara, M. Mete, and S. Suer, "Color and Spatial Features Integrated Normalized Distance for Density Based Border Detection in Dermoscopy Images," in Color Medical Image Analysis, ed: Springer Netherlands, 2013, pp. 41-61. (TAMU-C, #1)

2. M. Mete, F. Tang, X. Xu, and N. Yuruk, "Finding Functional Modules," in Systems Biology for Signaling Networks, ed: Springer New York, 2010, pp. 253-273. ([TAMU-C, #2](#))
3. M. Mete, N. Yuruk, X. Xu, and D. Berleant, "Knowledge Discovery in Textual Databases: A Concept-Association Mining Approach," in Data Engineering, ed: Springer US, 2010, pp. 225-243.

Refereed Journal Articles

4. N. M. Sirakov, Y.-L. Ou, and M. Mete, "Skin lesion feature vectors classification in models of a Riemannian manifold," Annals of Mathematics and Artificial Intelligence, pp. 1-13, 2014. ([TAMU-C, #3](#))
5. M. Mete and N. M. Sirakov, "Dermoscopic diagnosis of melanoma in a 4D space constructed by active contour extracted features," Computerized Medical Imaging and Graphics, vol. 36, pp. 572-579, 2012. ([TAMU-C, #4](#))
6. M. Mete, S. Kockara, and K. Aydin, "Fast density-based lesion detection in dermoscopy images," Computerized Medical Imaging and Graphics, vol. 35, pp. 128-136, 2011. ([TAMU-C, #5](#))
7. M. K. Nuthakki, M. Mete, C. Varol, and S. C. Suh, "UXSOM: UML generated XML to software metrics," ACM SIGSOFT Software Engineering Notes, vol. 36, pp. 1-6, 2011. ([TAMU-C, #6](#))
8. S. Suer, S. Kockara, and M. Mete, "An improved border detection in dermoscopy images for density based clustering," BMC Bioinformatics, vol. 12, p. S12, 2011. ([TAMU-C, #7](#))
9. M. Mete and N. M. Sirakov, "Lesion detection in demoscopy images with novel density-based and active contour approaches," BMC Bioinformatics, vol. 11, p. S23, 2010. ([TAMU-C, #8](#))
10. S. Kockara, M. Mete, B. Chen, and K. Aydin, "Analysis of density based and fuzzy c-means clustering methods on lesion border extraction in dermoscopy images," BMC Bioinformatics, vol. 11, p. S26, 2010. ([TAMU-C, #9](#))
11. S. Kockara, M. Mete, V. Yip, B. Lee, and K. Aydin, "A soft kinetic data structure for lesion border detection," Bioinformatics, vol. 26, pp. i21-i28, 2010. ([TAMU-C, #10](#))
12. M. Mete, L. Hennings, H. J. Spencer, and U. Topaloglu, "Automatic identification of angiogenesis in double stained images of liver tissue," BMC Bioinformatics, vol. 10, p. S13, 2009.
13. M. Mete, F. Tang, X. Xu, and N. Yuruk, "A structural approach for finding functional modules from large biological networks," BMC Bioinformatics, vol. 9, p. S19, 2008.
14. M. Mete, X. Xu, C.-Y. Fan, and G. Shafirstein, "Automatic delineation of malignancy in histopathological head and neck slides," BMC Bioinformatics, vol. 8, p. S17, 2007.

Conference Proceedings (peer reviewed)

15. M. Mete and N. M. Sirakov, "Optimal Set of Features for Accurate Skin Cancer Diagnosis," Accepted to IEEE 21th International Conference on Image Processing (ICIP), 2014. ([TAMU-C, #11](#))
16. D. Akgün, Ü. Sakoğlu, M. Mete, J. Esquivel, and B. Adinoff, "GPU-Accelerated Dynamic Functional Connectivity Analysis for Functional MRI Data Using OpenCL," in in Electro/Information Technology (EIT), 2014 IEEE International Conference on, 2014, pp. 255-260. ([TAMU-C, #12](#))

17. F. Sen, R. T. Wigand, N. Agarwal, M. Mete, and R. Kasprzyk, "Focal Structure Analysis in Large Biological Networks," in 6th International Conference on Bioinformatics and Biomedical Technology, 2014. ([TAMU-C, #13](#))
18. J. Chen, Q. Wen, Z. Pang, and M. Mete, "An effective approach towards color image segmentation for micro-vessel detection," in Computational Problem-Solving (ICCP), 2012 International Conference on, 2012, pp. 59-63. ([TAMU-C, #14](#))
19. J. Chen, Q. Wen, W. Qu, and M. Mete, "Panda facial region detection based on topology modelling," in Image and Signal Processing (CISP), 2012 5th International Congress on, 2012, pp. 911-915. ([TAMU-C, #15](#))
20. J. Chen, Q. Wen, C. Zhuo, and M. Mete, "Pose recognition of giant pandas based on gradient shapes," in Computational Problem-Solving (ICCP), 2012 International Conference on, 2012, pp. 358-362. ([TAMU-C, #16](#))
21. J. Chen, Q. Wen, C. Zhuo, and M. Mete, "A novel approach towards head detection of giant pandas in the free-range environment," in Image and Signal Processing (CISP), 2012 5th International Congress on, 2012, pp. 814-818. ([TAMU-C, #17](#))
22. J. Chen, Q. Wen, C. Zhuo, and M. Mete, "Automatic head detection for passenger flow analysis in bus surveillance videos," in Image and Signal Processing (CISP), 2012 5th International Congress on, 2012, pp. 143-147. ([TAMU-C, #18](#))
23. J. Chen, Q. Wen, C. Zhuo, and M. Mete, "Extraction of color entropy sequence for micro-vessel detection in virtual slide," in Image and Signal Processing (CISP), 2012 5th International Congress on, 2012, pp. 871-875. ([TAMU-C, #19](#))
24. M. Mete, J. Chen, Q. Wen, and X.-W. Liu, "Color region annotation for microvessel density estimation," in Wavelet Active Media Technology and Information Processing (ICWAMTIP), 2012 International Conference on, 2012, pp. 145-148. ([TAMU-C, #20](#))
25. M. Mete, Y.-L. Ou, and N. M. Sirakov, "Skin Lesion Feature Vector Space with a Metric to Model Geometric Structures of Malignancy for Classification," in Combinatorial Image Analysis, ed: Springer Berlin Heidelberg, 2012, pp. 285-297. ([TAMU-C, #21](#))
26. Q. Wen, W. Qu, J. Chen, and M. Mete, "A novel method for counting subcellular structures labeled by green fluorescent protein," in Computational Problem-Solving (ICCP), 2012 International Conference on, 2012, pp. 500-503. ([TAMU-C, #22](#))
27. E. Yenialp, H. Kalkan, and M. Mete, "Improving density based clustering with multi-scale analysis," in Computer Vision and Graphics, ed: Springer Berlin Heidelberg, 2012, pp. 694-701. ([TAMU-C, #23](#))
28. N. M. Sirakov, M. Mete, and N. S. Chakrader, "Automatic boundary detection and symmetry calculation in dermoscopy images of skin lesions," in Image Processing (ICIP), 2011 18th IEEE International Conference on, 2011, pp. 1605-1608. ([TAMU-C, #24](#))
29. B. Chen, B. Nordin, S. Bobba, D. Singireddy, B. Taylor, S. Kockara, et al., "Clustering on Protein Sequence Motifs using SCAN and Positional Association Rule Algorithms," in International Conference on Bioinformatics & Computational Biology, 2011, pp. 85-90. ([TAMU-C, #25](#))

30. V. Yip, M. Mete, U. Topaloglu, and S. Kockara, "Concept discovery for pathology reports using an N-gram model," AMIA Summits on Translational Science Proceedings, vol. 2010, p. 43, 2010. ([TAMU-C, #26](#))
31. B. Chen, M. Mete, and S. Kockara, "Parameter-Free Multi-Level Fuzzy C-Means Clustering For Unsupervised Structure Detection In Histological Images," SDPS 2010 Transformative Systems Conference, Dallas, USA, 2010. ([TAMU-C, #27](#))
32. S. Kockara, V. Yip, and M. Mete, "Balls hierarchy: Image segmentation by graph spanner," in Biomedical Imaging: From Nano to Macro, 2009. ISBI'09. IEEE International Symposium on, 2009, pp. 514-517. ([TAMU-C, #28](#))
33. N. Yuruk, M. Mete, X. Xu, and T. A. Schweiger, "AHSCAN: Agglomerative hierarchical structural clustering algorithm for networks," in Social Network Analysis and Mining, 2009. ASONAM'09. International Conference on Advances in, 2009, pp. 72-77.
34. M. Mete and U. Topaloglu, "Statistical comparison of color model-classifier pairs in hematoxylin and eosin stained histological images," in Computational Intelligence in Bioinformatics and Computational Biology, 2009. CIBCB'09. IEEE Symposium on, 2009, pp. 284-291.
35. M. Mete, X. Xu, C.-Y. Fan, and G. Shafirstein, "A Machine Learning Approach for Identification of Head and Neck Squamous Cell Carcinoma," in Bioinformatics and Biomedicine, 2007. BIBM 2007. IEEE International Conference on, 2007, pp. 29-34.
36. N. Yuruk, M. Mete, X. Xu, and T. A. Schweiger, "A divisive hierarchical structural clustering algorithm for networks," in Data Mining Workshops, 2007. ICDM Workshops 2007. Seventh IEEE International Conference on, 2007, pp. 441-448.
37. M. Mete, X. Xu, C.-Y. Fan, and G. Shafirstein, "Head and Neck Cancer Detection in Histopathological Slides," in Data Mining Workshops, 2006. ICDM Workshops 2006. Sixth IEEE International Conference on, 2006, pp. 223-230.
38. X. Xu, M. Mete, and N. Yuruk, "Mining concept associations for knowledge discovery in large textual databases," in Proceedings of the 2005 ACM symposium on Applied computing, 2005, pp. 549-550.

Others

39. H. Ankam, M. Mete, and Ü. Sakoğlu, "A Compact Independent Component Analysis Implementation with GPU," in 11th Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2014. ([TAMU-C, #29](#))
40. D. Akgun, J. E. Esquivel, and M. Mete, Sakoğlu, Ünal, "OpenMP-Accelerated Dynamic Functional Connectivity Analysis on Multicore Computer," in 11th Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2014. ([TAMU-C, #30](#))
41. K. Bohra, Ü. Sakoğlu, and M. Mete, "Software Toolbox for Multivariate Pattern Analysis of Different Brain States from Functional Magnetic Resonance Imaging Data," in Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2014. ([TAMU-C, #31](#))

42. J. E. Esquivel, M. Mete, and Ü. Sakoğlu, "DynaConn: A Software for Analyzing Brain's Dynamic Functional Connectivity from fMRI Data," in 11th Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2014. ([TAMU-C, #32](#))
43. M. Mete, H. Ankam, and Ü. Sakoğlu, "A Graphical Processing Unit Supported Neuroimaging Software in JAVA," in 10th Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2013. ([TAMU-C, #33](#))
44. J. E. Esquivel, M. Mete, and Ü. Sakoğlu, "Software for Analyzing Brain's Dynamic Functional Connectivity from fMRI," in Proceedings of the IEEE EMBS Annual Medical Device Symposium, 2013. ([TAMU-C, #34](#))
45. R. K. Komanduri and M. Mete, "High Performance Processing of Virtual Slide on GPUs," in 9th Midsouth Computational Biology and Bioinformatics Society Conference (MCBIOS), 2012. ([TAMU-C, #35](#))
46. M. Mete, M. Devous, J. Spence, and B. Adinoff, "A Support Vector Machines Model To Classify Cocaine Patients," in Alcoholism-Clinical And Experimental Research, 2012, pp. 396A-396A. ([TAMU-C, #36](#))
47. M. Mete, B. Adinoff, M. Devous, and J. Spence, "A machine learning approach for patient classification in cocaine addiction via SPECT images," in College on Problems of Drug Dependence, 2011. ([TAMU-C, #37](#))
48. G. Shafirstein, X. Xu, and M. Mete, "Image processing apparatus and method for histological analysis," ed: Patent, 2010.
49. M. Mete, Delineation of malignant areas in histological images of head-neck cancer: ProQuest, 2008.

Presentations Given

Mete, M. (Author Only), UT Dallas Neuroscience Conference, UT Dallas, Dallas. (April 13, 2012).

Mete, M. (Presenter & Author), NeuroImaging Reseach at NIH, "A computation method for classification of addicted patients," NIH - NIDA NeuroImaging Reseach, Baltimore. (March 2012).

Mete, M. (Presenter & Author), Texas Research Society on Alcoholism, "A Support Vector Machines Model To Classify Cocaine Addicted Patients," College Station, TX. (February 24, 2012).

Mete, M. (Presenter & Author), Department of Mathematics Colloquium, "Automatic delineation of malignancy in histopathological head and neck slides," Dept. of Mathematics, BIN. (November 2, 2011).

Mete, M. (Presenter & Author), Department of Computer Science - ETU, "Automatic delineation of malignancy in histopathological head and neck slides," Economy and Technology Univerisity - Turkey. (May 11, 2009).

Contracts, Grants and Sponsored Research (Only while at TAMU-Commerce)

1. Synchronizing Activities of Breast Cancer and the Environment Research Centers, Submitted National Institute of Health, December 2009, Co-PI, \$716,669. Not funded.
2. Applications of Contemporary Mathematics to Scientific and Engineering Research, Submitted to National Science Foundation, September 27, 2009, Co-PI, \$1,862,137. Not funded.
3. REU SITE: Research Experiences for Undergraduates in Medical Image Analysis, Submitted to National Science Foundation, August 2014, Co-PI, \$327,348. Not funded.
4. Center for Patterns and Abstractions Discovery in Image Collections, Interdisciplinary Research Incentive Competition, Submitted to National Science Foundation, September 2009, Co-PI. Not funded.

5. Identification of Region-of-interests in High Dimensional Histological Slides, Submitted to Norman Hackerman Advanced Research Program, September 12009, PI, \$92,000. Not funded.
6. Parallel Image-guided Interventions to Assist Pathologists in Identification of Melanocytic Skin Lesions, Submitted Twice to National Institute of Health, June 2012, \$290,000. Not funded.
7. Fast Microvessel Detection in Virtual Slides of Solid Tumors, Sponsored by National Natural Science Foundation of China (Grant#: 61150110482), Co-PI, January 2012 - January 2013. \$30,000. **Funded**.
8. Fast Quantification of Angiogenesis in Virtual Slides, Sponsored by Texas A&M University-Commerce, Co-PI, September 2011 - October 30, 2012, \$12,963. **Funded**.
9. Independent Component Analysis Based Support Vector Machine Classification Method, Sponsored by National Institute of Health / NIDA, PI, September 2011 - September 2013, \$132,934. **Funded**.
10. Delineation of Skin Cancer and Lesions by Filters Supported Active Contour," Sponsored by Texas A&M University-Commerce, Co-PI, September 2010 - October 2011, \$14,533. **Funded**.
11. Skin Cancer Identification Using Active Contours' Extracted Features and Geometry of Manifolds, Submitted Twice to National Institute of Health, Co-PI, October 25, 2010, \$279,000. Not funded.
12. Skin Cancer Identification Using Active Contours' Extracted Features and Geometry of Manifolds, Submitted to by National Institute of Health, Co-PI, March 2011, \$309,000.00. Not funded.
13. Automated Classification of Cocaine Addicted Patients via fMRI Brain Images with Independent Component Analysis Supported Features, Sponsored by The Scientific & Technological Research Council of Turkey, Co-PI, May 2012-May 2013. \$24,000. **Funded**.
14. Using MapReduce for Medical Big-data Computing, Submitted to Texas A&M University-Commerce, Co-PI, Co-PI, \$11,000. Not funded.
15. Closing the Gap between Neuroimaging and Machine Learning, Sponsored by Texas A&M University-Commerce, PI, September 2012 - October 2013, \$13,733. **Funded**.
16. A Fast Independent Component Analysis in GPU, Summer Research Scholarship for a Master Student, Sponsored by Texas A&M University-Commerce, Scholarship Advisor, June 2011, \$4,000. **Funded**.
17. DynaConn: A Software for Dynamic Functional Connectivity Analysis of fMRI, Summer Research Scholarship for a Master Student, Sponsored by Texas A&M University-Commerce, Scholarship Advisor, June 2011, \$4,000. **Funded**.
18. Density Based Visualization of Big Data With Graphical Processing Units, Summer Research Scholarship for a Master Student, Sponsored by Texas A&M University-Commerce, Scholarship Advisor, June 2011, \$4,000. **Funded**.

SERVICE

Editorial and Review Activities

Associate Editor, "International Journal of Biometrics and Bioinformatics (IJBB). (November 1, 2011 - Present).
 Ad Hoc Reviewer, Papers, "PLOS Computational Biology," Public Library of Science, (November 26, 2011-Present).

Ad Hoc Reviewer, Papers, Multi Conference on Computer Science and Information Systems, (September 25, 2011 - Present).

Ad Hoc Reviewer, Papers, "BMC Research Notes," BioMed Central, Research Notes, (September 21, 2011 - Present).

Computational Bioimaging, International Symposium on Visual Computing, (July 8, 2011 - Present).

Ad Hoc Reviewer, Papers, "Journal of Current Bioinformatics" (July 1, 2011 - Present).

Ad Hoc Reviewer, Papers, "Journal of Real Time Imaging" (July 1, 2013 - Present).

Ad Hoc Reviewer, Papers, "BMC System Biology" (April 1, 2013 - Present).

Ad Hoc Reviewer, Papers, "International Journal of Pattern Recognition and Artificial Intelligence" (July, 2012 - Present)

Program Committee, Papers, Advances in Low-Level Color Image Processing. 2013

Program Organizer, Ph.D. Workshop at IEEE International Symposium on Multimedia (ISM2012, ISM2013, ISM2014), approximately 25 hours spent for each year. (February 15, 2012 - Present).

General Service

College and Departmental

- New Student Orientation, Departmental Representative, approximately 20 hours spent for the year since 2010
- Committee Member, Committee for Ph.D. in Computational Science, Member. (March 1, 2010 – June 2013)
- Program Organizer, UIL Programming Competition. (April 16, 2011)
- Program Organizer, UIL Programming Competition. (May 10, 2010)
- Library Liaison, Digital Course Context (November 15, 2011 - Present)
- Undergraduate advising, 5 hours spent for month. (August 15, 2012 - Present)
- Computer Science Curriculum Development Committee, Co-Chair. (March 1, 2011 - Present). Developed and updated curriculum, help Navarro college policy development
- Written reference letter for over 50 students (graduate and undergraduate)
- Master Program Placement Test Regulation Committee, Member, May 2013. Develop guidelines for how the test will be taken and address issues
- Invited Mr. Atabaev and hosted library hours, Sep. 26 2013. Mr. Atabaev talked on how the library and digital services can be used in courses and research
- ABET committee, Member, Nov 2012-present
- Commerce High School Computing Certificate Committee, Member, April 2013-Present
- Attended Major Fair, Nov 19 2013. Represented the department, answer curriculum and other question related to Computer Science and Computer Information Systems
- College IRB committee member, Oct 2013, review IRB protocols and report to chair
- Attended ABET training, Oct 20 2013