Name   Ouiem Bchir, PHD.
Position   Assistant professor
Affiliation   CS department, CCIS, KSU
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Office   123 - Building 6
                Female Campus
                King Saud University

Education

2011   Ph.D. in Computer Engineering and Computer Science
University of Louisville, KY, USA.
Dissertation: Unsupervised and semi-supervised clustering with learnable cluster dependent kernels.
Adviser: Dr. Hichem Frigui
University of Louisville Dean Citation, 2011
Computer Engineering and Computer Science department award- 2011

2006   M.S. of Automatic and Signal Processing
National School of Engineering of Tunis, Tunisia, June 2005.
Thesis: Speech separation using wavelet analysis.
Advised by: Dr. Amal Ben Slimane.Ranked: rank 3/120.

2002   B.S. Electrical Engineering
National School of Engineering of Monastir, Tunisia, June 2002.
Major in Industrial computer science.
Graduation Project : Medical image processing.
Advised by: Dr. Najoua Ben Amara.
Graduation with highest honors and Presidential award.

1999   Associate Degree in Mathematics and Physics
Preparatory engineering studies in Mathematics and Physics (Math SUP-Math SP).
L'InstitutPreparatoire des Etudes Scientifique de Tunis IPEST (1997-1999).
Advanced studies in mathematics and physics are carried out on two years after which students present the entrance examination for Tunisian or French engineering colleges. The program is both the French and Tunisian preparatory classes with major in math and physics.

Work Experience

Aug 2011 – Present   Assistant professor at King Saud University, Computer science department

Aug 2006 – May 2011   Graduate Research Assistant
Multimedia Research Lab, CECS, University of Louisville.
Extensive experience with
  • Spectral and kernel clustering
  • Hyperspectral image analysis
  • Local distance measure learning
  • Semi-supervised learning
  • Data sets: Endoscopy videos, Landmine data set, Geological hyperspectral dataset, Corel image data set ...

Sept 2002 - Feb 2006   Co-Design Engineer STMicroelectronics, Ariana, Tunisia.
Co-Design Engineer involved in the high level design of STMicroelectronics IPs and interconnects such as the STBus and the ST220 co-processor using SystemC and VHDL.
Leading the co-design Tunisian Team and in charge of the coordination between the Tunisian, the French and Italian team.
Responsible for training the new recruits in the co-design team.

Feb 2002-June 2002   Graduation Engineer Intern
Medical image processing Laboratory of the medical university of Monastir.
Graduation Project on Medical image processing.
It consists of developing a software using Visual C++ that allows displaying DiCOM type medical images, pre-processing these images than applying dedicated linear and nonlinear filters to extract useful information for the diagnostic of the patient. ***Presidential award.***

Jul 2001- Aug 2001   Microelectronic Engineer Intern
Audiovisual company, THOMSON, Sousse, Tunisia.
Technician in the After sale service.

Jul 2000 - Aug 2000   Electric Engineer Intern
Airline company, NOUVELAIR, Monastir, Tunisia.
Technician in the airplane maintenance service.

Referred Conference Papers

Mohamed Maher Ben Ismail and **Ouiem Bchir** "Verbal Offense Detection in Social Network Comments using Novel Fusion Approach". 13th IEEE/ACIS International Conference on Computer and Information Science (ICIS). Taiyuan, 2014. (Accepted).

Heelah Alraqibah, **Ouiem Bchir** and Mohamed Maher Ben Ismail, "X-Ray Image Retrieval System Based on Visual Feature Discrimination", SPIE International Conference on Digital Image Processing (ICDIP), Athens, 2014. (Accepted)

Mohamed Maher Ben Ismail, **Ouiem Bchir**, Ahmed Z. Imam. "Endoscopy video summarization based on unsupervised learning and feature discrimination", IEEE Visual Communications and Image Processing (VCIP), 2013.

Sarah Otaiba, Sahar Qassim, **Ouiem Bchir**, and Mohamed Maher Ben Ismail." Empirical comparison of visual descriptors for multiple bleeding spots recognition in wireless capsule endoscopy video", International Conference on Computer Analysis of Images and Patterns (CAIP), 2013.

Ouiem Bchir, Mohamed Maher Ben Ismail, and Hichem Frigui. "Mixture Analysis based on Spectral Summarization". IEEE WHISPERS 2013

Ouiem Bchir,   Hichem Frigui, and Mohamed Maher Ben Ismail. "Semi-Supervise clustering and Local Scale Learning algorithm". International Conference on Artificial Intelligence (ICAI), 2013.

Ouiem Bchir,   HichemFrigui, and Mohamed Maher Ben Ismail. "Semi-Supervised Relational Fuzzy clustering with Local Distance Measure Learning". International Conference on Artificial Intelligence (ICAI), 2013.

Ouiem Bchir and Hichem Frigui. "Semi-Supervised Clustering with LEarnable Cluster Dependent Kernels". International Conference on Pattern Recognition (ICPR) , 2012.

Alina Zare, **Ouiem Bchir**, Hichem Frigui and Paul Gader. Hyperspectral image analysis with piece-wise Convex endmenber estimation and spectral unmixing. International Conference on Image Processing (ICIP), 2012.

Ouiem Bchir and HichemFrigui. "Fuzzy clustering with learnable cluster dependent kernels".FUZZ-IEEE 2011.

Ouiem Bchir and Hichem Frigui. Fuzzy relational kernel clustering with local scaling parameter learning. IEEE MLSP 2010 Kittila, Finland, August 2010.

Ouiem Bchir, Hichem Frigui, AlinaZare and Paul Gader. Multiple Model Endmember Detection Based On Spectral and Spatial Information. IEEE WHISPERS 2010, Reykjavik, Iceland , June 2010.

AlinaZare, **OuiemBchir**, Hichem Frigui and Paul Gader .Spatially-Smooth Piece-Wise Convex Endmember Detection. IEEE WHISPERS 2010, Reykjavik, Iceland, June 2010.

AlinaZare, **Ouiem Bchir**, Hichem Frigui and Paul Gader. A Comparison Of Deterministic And Probabilistic Approaches To Endmember Representation. IEEE WHISPERS 2010, Reykjavik, Iceland, June 2010.

Referred Journal Papers

Mohamed M. Ben Ismail, **Ouiem Bchir**, and Ahmed Z. Emam, "Endoscopy Video Summarization based on Multi-modal Descriptors and Possibilistic Unsupervised Learning and Feature Subset Weighting". The Soft Computing and Automation Journal. (To appear).

Hichem Frigui, **Ouiem Bchir**, and Naouel Baili, "An Overview of Unsupervised and Semi-Supervised Fuzzy Kernel Clustering", International Journal of Fuzzy Logic and Intelligent Systems, Vol. 13, No. 4, pp. 254-268, December 2013.

Ouiem Bchir, Hichem Frigui and Mohamed Maher Ben Ismail. "Semi-supervised fuzzy clustering with learnable cluster dependent kernels". International Journal on Artificial Intelligence. Vol. 22, No. 3, pp. 13500. 2013.

Alina Zare, **Ouiem Bchir**, Hichem Frigui and Paul Gader. Piece-wise Convex Multiple Model Endmember Detection and Spectral Unmixing. IEEE TGRS 2012.

Mohamed Maher Ben Ismail and **Ouiem Bchir**, "Automatic Image Annotation based on Semi-supervised Clustering and Membership based Cross Media Relevance Model". International Journal of Pattern Recognition and Artificial Intelligence Vol. 26, No. 6, Dec 2012.

Ouiem Bchir and Hichem Frigui. Fuzzy clustering with learnable cluster dependent kernels. Pattern Analysis And Applicatiom (PAAA). (under revision).

Ouiem Bchir and Mohamed Maher Ben Ismail. "Unsupervised and semi-supervised relational clustering with local scale parameter", International Journal of Pattern Recognition and Artificial Intelligence. (under revision).

Honors and Awards

• University of Louisville Dean citation, 2011- UofL- May 2011

• Computer Engineering and Computer Science department award- 2011

• Graduate Research Assistant ship – University of Louisville

• Promoted to co-design job within STMicroelectronics on September 2002.

• Presidential award received for the electrical engineering diploma (2002).

• Tunisian national scholarship for preparatory engineering studies in "l'Institut Preparatoire des Etudes Scientifique de Tunis" IPEST (1997-1999).

• Access to the preparatory classes IPEST which is a selective procedure for the best students of final classes (math section) of schools (1997).

Taught courses

Programming Language I (Java level I)	BS course	Fall 2011
Programming language II (Java level II)	BS course	Spring 2012…Spring 2014
Image processing and pattern recognition	Master course	Fall 2012 - Spring 2013
Data warehouse and data mining	Master course	Fall 2013
Advanced graphics and multimedia	Master course	Spring 2014
Selected topics in Image Processing and Pattern Recognition	PhD course	Spring 2014

Supervised projects

Master Graduation projects

- X-Ray Image Retrieval System Based on Visual Feature Discrimination and Multiple Instance Learning

- Hyperspetral mixture analysis with self-Estimation of the Number of Endmembers

Languages

Arabic   native

French   fluent in reading/writing/speaking

English   fluent in reading/writing/speaking

Services

Master student new comer committee convenior.

Master student graduation committee convenior.

Master Aaademic advising committee member.

NCAA committee member.

Scheduling committee member.

B.S curriculum committee member.

Reviewer for the Transactions on Fuzzy Sets journal (TFS).

Reviewer for the Fuzzy Sets and Systems journal (FSS).

Reviewer for the WHISPERS IEEE conference.

Doctoral Coursework

1. Combinatorial Optimization

2. Image Processing and Pattern Recognition

3. Content Based Image Retrieval

6. Artificial Intelligence

7. Multimedia and Hypertext

8. Content Based Video Retrieval

9. Computer Algorithms

10. Fuzzy theory

4. Pattern Recognition and Machine Intelligence

5. Data Mining