Name	Ouiem Bchir, PHD.
Personal Information	Female, Married, Tunisian citizen, 2 children
Position	Assistant professor
Affiliation	CS department, KSU
Email	obchir@ksu.edu.sa ouiem.bchir@gmail.com
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 1 year M.S. of Automatic and Signal Processing
National School of Engineering of Tunis, Tunisia, June 2005.

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'Institut Preparatoire 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 Journal Papers

Mohamed Maher Ben Ismail and **Ouiem Bchir**, "Semi-supervised Local Fusion Approach for Mine Detection in Sonar Data", International Journal OF Intelligent Systems. Volume 30, Issue 11, pages 1161–1183, November 2015.

Ouiem Bchir and Mohamed Maher Ben Ismail and, "Verbal Offense Detection in Social Network Comments using Novel Fusion Approach", AI Communications, DOI: 10.3233/AIC-150674, pp. 1-16, 2015

Ouiem Bchir and Mohamed Maher Ben Ismail. Generic Evaluation Metrics for Hyperspectral Data Unmixing. Journal of Intelligent Automation and Soft Computing. DOI: 10.1080/10798587.2015.1022994, 2015.

Ouiem Bchir, Hichem Frigui and Mohamed Maher Ben Ismail. Fuzzy clustering with learnable cluster dependent kernels. Journal of Pattern Analysis And Applicatiom (PAAA). DOI:10.1007/s10044-015-0461-7, 2015.

Mohamed Maher Ben Ismail, **Ouiem Bchir** and Abdelmonim Artoli, "Optical Flow based Analysis of Leukocyte Dynamics in Microcirculation", International Journal of Artificial Intelligence & Applications (IJAIA) Vol. 6, No. 3, pp. 25-34, 2015.

Mohamed Maher Ben Ismail and **Ouiem Bchir**, "Endoscopy Video Summarization using Novel Relational Motion Histogram Descriptor and Semi-supervised Clustering". Journal of Experimental & Theoretical Artificial Intelligence. DOI:10.1080/0952813X.2015.1020623 , 2015.

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, vol. 20, no. 3, pp. 381-402, 2014.

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 tools. Vol22, no 5,p 1350013-1/1350013-26, IJAIT 2013.

Alina Zare, Paul Gader, **Ouiem Bchir**, and Hichem Frigui . Piece-wise Convex Multiple Model Endmember Detection and Spectral Unmixing. IEEE transactions on geoscience and remote sensing, vol 51, n 5, 2853-2862, 2013.

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 (IJPRAI), 2012.

Referred Conference Papers

Mohamed Maher Ben Ismail and **Ouiem Bchir**, "CE Video Summarization using Relational Motion Histogram Descriptor", International Conference on Optoelectronics and Image Processing (ICOIP 2015), July 2015, Chicago.

Ouiem Bchir, "Self-Estimation of the Number of Endmembers for Hyperspetral Mixture Analysis", International Conference on Optoelectronics and Image Processing (ICOIP 2015), July 2015, Chicago.

Ouiem Bchir and Mohamed Maher Ben Ismail, "Generalized Relative Spectral Unmixing Evaluation Measure", IEEE-International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, July 2014.

Mohamed Maher Ben Ismail and **Ouiem Bchir**, "Survey on number of endmembers estimation approaches for unmixing hyperspectral data", IEEE-International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, July 2014.

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, June 2014.

Heelah Alraqibah, Mohamed Maher Ben Ismail and **Ouiem Bchir**, *"Empirical Comparison of Visual Descriptors for Content based X-ray Image Retrieval"*, International Conference on Image and Signal Processing (ICISP'14), Cherbourg, June 2014.

Heelah Alraqibah, **Ouiem Bchir** and Mohamed Maher Ben Ismail, X-Ray Image Retrieval System Based on Visual Feature Discrimination, ICDIP 2014.

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.

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…fall 2015
Computer Organization	BS course	Spring 2015…fall2015

Image processing and pattern recognition	Graduate course	Fall 2012 – Spring 2013 Fall 2014-Spring 2015
Data warehouse and data mining	Graduate course	Fall 2013
Advanced graphics and multimedia	Graduate course	Spring 2014
Advanced pattern recognition applications and machine learning	Graduate course	Fall 2015

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
- Empirical Comparison of Visual Descriptor for Ulcer Recognition in Wireless Capsule Endoscopy Video
- Multiple Bleeding Detection in Wireless Capsule Endoscopy

Master thesis projects
- Multiple query Image Retrieval based on unsupervised feature discrimination
- Automatic Image Based Smoke Detection

Funded Projects

- Generalized Relative Spectral Unmixing Evaluation Measure: funded by the College Research Center
- Verbal Offense Detection in Social Network Comments using Local Fusion Approach: funded by the College Research Center

Languages

Arabic   native
French   fluent in reading/writing/speaking
English   fluent in reading/writing/speaking

Services
- Master student new comer committee convener.
- CS department booklet committee convener.
- Master Academic advising committee member.
- Member of the ABET accreditation committee

- Member of the QMS quality committee
- Reviewer for the Transactions on Fuzzy Sets journal (TFS).
- Reviewer for the Fuzzy Sets and Systems journal (FSS).
- Reviewer for the WHISPERS IEEE conference.
- Reviewer for the ICDIP conference.

Doctoral Coursework

1. Combinatorial Optimization
2. Image Processing and Pattern Recognition
3. Content Based Image Retrieval
4. Pattern Recognition and Machine Intelligence
5. Data Mining
6. Artificial Intelligence
7. Multimedia and Hypertext
8. Content Based Video Retrieval
9. Computer Algorithms
10. Fuzzy theory