

مختصر للسيرة العلمية (التفاصيل في النسخة الإنكليزية، ص5)

(For Full CV in English, Jump to Page 5)

الدكتور يحيى محمد الحاج^{2&1}

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نبذة عن التكوين والخبرة العملية

يحيى محمد الحاج باحث موريتاني، حاصل على درجتي الماجستير والدكتوراة في علوم الحاسب من جامعة محمد الأول بالمغرب (سنتي 1998م و2001م) وذلك ضمن برامج أوربية مشتركة (INCO-DC & DAPPI European Projects)؛ نال قبل ذلك درجة البكالوريوس في علوم الحاسب من جامعة القاضي عياض بالمغرب سنة 1996م. عمل باحثاً بعد الدكتوراة (postdoc) في أحد المختبرات الفرنسية ضمن برامج منح التميز البحثي التابعة لمنظمة الفرنكوفونية (Bourses d'excellences de la francophonie). قام بزمالات بحثية في عدد من المؤسسات العلمية والمختبرات الأوربية، من بينها مختبر الحوسبة عالية الأداء (High Performance Computing) بالمدرسة الوطنية العليا بفرنسا (LIP-ENS, Lyon-France)، معهد بحوث الحاسب بمدينة تولوز الفرنسية (IRIT, Toulouse-France)، إلخ.

التحق بهيئة التدريس بقسم علوم الحاسب في كلية علوم الحاسب والمعلومات بجامعة الإمام بالمملكة العربية السعودية بداية العام الأكاديمي 2003/2002م، حيث درّس فيها لمدة تسع سنوات متوالية، شارك خلالها في مختلف الأنشطة البحثية والأكاديمية؛ ومن بين هذه الأنشطة اقتراح مركز متخصص للحوسبة في المجالات الشرعية والعربية الذي وافقت الجامعة على إنشائه، وانتدب للعمل فيه من سنة 2012م إلى 2014م كباحث متخصص في الحوسبة باللغة العربية إضافة إلى العمل كمستشار للبرامج الأكاديمية بعمادة تقنية المعلومات بالجامعة. وعلاوة على المركز، أسس الدكتور الحاج مع بعض من زملائه الحاسوبيين واللغويين (منهم الدكتور زهير زميرلي من جامعة الجزائر، والدكتور رشيد بوزيان من جامعة قطر، والدكتور أحمد عبد العالي من جامعة New Mexico بأمريكا) مجموعة بحثية للمعالجة الآلية للغة العربية وهو المشرف عليها؛ وقد حصلت على منح بحثية بتمويلات كبيرة لتنفيذ مشاريع في جوانب هامة من حوسبة اللغة (انظر الصفحة 13).

فاز الدكتور الحاج بمنحة للتميز البحثي للقيام بتفرغ علمي في السنة الجامعية 2015/2014م في بريطانيا وفرنسا بتمويل من برنامج الزمالات الأكاديمية التابع للصندوق العربي للإنماء بالكويت (<http://www.arabfund.org/>).

وقد التحق بمشروع معجم الدوحة التاريخي للغة العربية في سبتمبر 2015م للعمل كخبير حاسوبي في مجال المعالجة الآلية للغات الطبيعية، ولا يزال على رأس العمل إلى هذا الوقت.

ساهم في إعداد مقرر دراسي لحوسبة اللغة ضمن برنامج ماجستير اللسانيات والمعمجية العربية بمعهد الدوحة للدراسات العليا وانتدب للمشاركة في تدرسيه من خريف 2017 إلى الآن.

تشمل الاهتمامات البحثية للدكتور الحاج، بالإضافة إلى المعالجة الآلية للغات الطبيعية، الحوسبة في المجالات الشرعية والعربية، المعالجة الآلية للغة الإشارة، البرامج الناطقة لخدمة ذوي الإعاقة البصرية، والحوسبة عالية الأداء (High Performance Computing-HPC).

شارك الدكتور الحاج مع نخبة من الباحثين العرب (بالعالم العربي وبالمهجر) في مبادرة لدعم استخدام اللغة العربية في مجال علوم وهندسة الحاسوب؛ وقد تمخض عن هذه المبادرة تظاهرة علمية باسم المؤتمر الدولي لعلوم وهندسة الحاسوب باللغة العربية الذي ينعقد بشكل دوري منذ 2003م في البلدان العربية. وقد صاحب هذا المؤتمر إطلاق مجلة دولية تحت اسم "المجلة الدولية لعلوم وهندسة الحاسوب باللغة العربية" تنشرها مؤسسة فيلبس التي يشرف عليها البرفسور علي الملي من معهد نيوجرزي في أمريكا (New Jersey Institute)؛ وهو الآن يرأس هيئة تحريرها.

شارك الدكتور الحاج في مؤتمرات دولية ونشر العديد من الأوراق العلمية في مجلات محكمة عربية ودولية (انظر الصفحة 14) الكثير منها مصنف ضمن قواعد بيانات عالمية (ISI Thomson Reuters, Scopus, IEEE Xplore, DBLP, etc.)؛ وهو عضو في لجان علمية لمؤتمرات مختلفة وهيئات تحرير لعدد من المجلات الدولية والعربية، من بينها: (1) المجلة الدولية لتقنيات الكلام "International Journal of Speech Technology" التي تنشرها Springer (<https://link.springer.com/journal/10772>)؛ (2) المجلة التركية الدولية لتقنيات التعليم "Turkish Online Journal of Educational Technology" (<http://www.tojet.net/>)؛ (3) مجلة بحوث الحاسب التابعة لاتحاد مجالس البحث العلمي العربية "Computer Research Journal"؛ (4) مجلة اتصالات جمعية الحاسبات العربية التي يشرف عليها البرفسور هاني عمار من جامعة وست فيرجينيا (<http://comm.arabcomputersociety.org>)، إلخ.

أشرف الدكتور الحاج وشارك كباحث رئيس في العديد من المشاريع البحثية التي مولتها جهات علمية مختلفة، منها على سبيل المثال لا الحصر: (1) التعرف الآلي على الخصائص اللغوية للمفردات القرآنية اعتماداً على الطرق الإحصائية؛ (2) التحليل الصرفي داخل السياق؛ (3) الترجمة الآلية من العربية إلى لغة الإشارة العربية مع استخدام تقنيات الرسوم المتحركة ثلاثية الأبعاد (3D animations)؛ (4) تطوير بيئة وأدوات حاسوبية للتعليم الآلي للقرآن الكريم وعلومه؛ إلخ. وفي الجزء الموالي نبذة عن هذه المشاريع البحثية.

الاهتمامات البحثية:

- المعالجة الآلية للغات الطبيعية
- الحوسبة في المجالات الشرعية والعربية
- التقنيات المساندة في مجال الإعاقة السمعية
- المعالجة الآلية للغة الإشارة
- الحوسبة عالية الأداء

المشاريع البحثية:

- الباحث الرئيس في مشروع "تحديد الخصائص اللغوية للمفردات القرآنية" الممول من إدارة المنح بمدينة الملك عبد العزيز للعلوم والتقنية في السعودية بمنحة رقم "أت-30-199". سعى هذا العمل إلى استكمال تجهيز ذخيرة لغوية متميزة تخص القرآن الكريم، أعدت في إطار مشروع سابق ممول من مدينة الملك عبد العزيز للعلوم والتقنية بمنحة رقم "أت-25-113" لنفس الباحث، وذلك من خلال تحديد الخصائص اللغوية للمفردات القرآنية ثم إضافتها إلى الذخيرة. ولتحقيق ذلك، تم العمل على استخراج البنية اللغوية للجملة العربية الفصيحة وتمثيلها بواسطة نموذج إحصائي مناسب، تلا ذلك وضع نظام ترميزي ملائم لتمثيل الخصائص اللغوية للمفردات العربية. تم تدريب النموذج الإحصائي على عينة أولية من القرآن مهيأة يدويا بواسطة خبراء لغويين، ثم استخدم هذا النموذج تدريجيا لتحديد الخصائص بشكل آلي: في كل مرحلة، يتم تدريب النموذج على عينة مجهزة ثم يستخدم لتحديد الخصائص بشكل آلي على عينة جديدة؛ تتم مراجعة المخرجات وبعد التصحيح تضاف إلى عينة التدريب المتاحة ويعاد تدريب النموذج عليها لزيادة قدرته على التعرف في المرحلة اللاحقة.

- الباحث الرئيس في مشروع "نموذج إحصائي لاختيار التحليل الصرفي المناسب للكلمة العربية حسب سياقها في الجملة" الممول من عمادة البحث العلمي بجامعة الإمام في السعودية. سعى هذا المشروع البحثي إلى إنشاء نماذج إحصائية تعتمد أساسا على بنية الجمل العربية، واستعمال هذه النماذج في اختيار أفضل الحلول التي يعطيها المحلل الصرفي (مثلا: AraMorph أو Elkhalil) للكلمات خارج السياق. ويفيد هذا النوع من التحليل في التطبيقات التي تراعي السياقات التي ترد فيها الكلمات، وبالتالي الاقتصار على الحلول المناسبة لتلك السياقات.

- الباحث الرئيس في مشروع "المترجم الافتراضي من اللغة العربية إلى لغة الإشارة السعودية" الممول من مدينة الملك عبدالعزيز للعلوم والتقنية ضمن الخطة الاستراتيجية للعلوم والتقنية في السعودية. سعى هذا المشروع إلى بناء نظامين فرعيين أساسيين، أحدهما مترجم آلي من العربية إلى لغة الإشارة يعتمد على البنية اللغوية للجملة، والثاني برنامج لعرض الإشارات حاسوبياً باستخدام تقنيات الشخصيات الافتراضية المعتمدة على الرسومات ثلاثية الأبعاد. تمخض عن هذا المشروع جملة من المخرجات الهامة، تتمثل في مدونة متوازية تضم نصوصاً عربية مختارة مع ترجمتها الإشارية بصيغتين (صيغة كتابية وأخرى مرئية)، قواعد تحويلية للترجمة الآلية من العربية إلى لغة الإشارة، وبعض الأدوات الحاسوبية.

- الباحث الرئيس في مشروع "التعليم الآلي للقرآن الكريم" الممول من إدارة المنح بمدينة الملك عبد العزيز للعلوم والتقنية بمنحة رقم "أت-25-113". سعى هذا المشروع الكبير والهام إلى إنشاء بيئة حاسوبية للتعليم الذاتي للقرآن وعلومه. وقد ضم أربعة أنظمة فرعية أساسية، أحدها نظام للتحفيز الآلي للقرآن الكريم عبر الشبكة العنكبوتية يحاكي نظام الحلقات الاعتيادي ويستخدم تقنيات التعرف الآلي على الكلام لمتابعة القارئ وتصحيح نطقه. أما النظام الفرعي الثاني فهو للتعليم الذاتي للتجويد، ويعتمد على محرك بحث برمجيت فيه القواعد التجويدية بصيغ رياضية قابلة للمعالجة الآلية بشكل سريع وفعال. النظام الفرعي الثالث يقدم أداة لتحديد المتشابه اللفظي في القرآن الكريم على مختلف الأوجه التي يأتي عليها، ويعتمد على استخدام تقنيات متقدمة في الذكاء الاصطناعي لتحليل النصوص ومقارنتها. أما النظام الفرعي الرابع والأخير، فيقدم بيئة لتعلم القرآن وعلومه من خلال الربط المباشر للآيات القرآنية بتفسيرها، وإعرابها، وأسباب نزولها، إلخ. ويتم ذلك من خلال فهرسة محكمة عبر تقنيات xml.

- باحث مشارك في مشروع "التعرف الآلي على الخصائص اللغوية للمفردات العربية" الممول من مدينة الملك عبدالعزيز للعلوم والتقنية في السعودية، ضمن مشروع كبير لتطوير أدوات للمعالجة الآلية للغة العربية. سعى هذا المشروع إلى الدمج بين الطرق الإحصائية واللغوية لبناء نظام قادر على تحديد الخصائص اللغوية. ففي الجانب اللغوي، استخدم التحليل الصرفي لتحديد حجم القاموس الترميزي المستخدم، واستخدمت في الجانب الإحصائي نماذج ماركوف الخفية.

- إلخ.

CURRICULUM VITAE

Yahya Mohamed Elhadj^{1,2}, PhD

¹ **Computer Scientist** @ Doha Arabic Historical Dictionary, Arab Center for Research & Policy Studies

² **Adjunct Professor** in the Master Program @ Doha Institute for Graduate Studies, Doha, Qatar.

Resume:

Yahya MOHAMED ELHADJ received his PhD, in parallel processing applied to Speech Recognition, from European joint program by the end of 2001. He conducted several post-docs in well-reputed international institutions, such as the IRIT-Toulouse, LIP-Lyon, etc. with distinguished research grants attributed by the Francophonie Organization and the Arab Fund for Economic and Social Development as well as European Projects (INCO-DC, DAPPI). He worked as faculty member at Al-Imam University for twelve years. He joined, in September 2015, the Doha Institute for Graduate Studies to acting as Arabic NLP expert in the Doha Historical Dictionary of Arabic project and to serve as adjunct professor in the Computational Linguistics Master Program. His research interests include Arabic Natural Language Processing, Sign Language, High Performance Computing; he published many research papers in well indexed journals.

Personal Information

Name:	Yahya Mohamed Elhadj
Date of Birth:	31/12/1972
Marital Status:	Married (with four children)
Nationality:	Mauritanian
Current Positions:	<ol style="list-style-type: none">1) <u>Computer Scientist</u>, Doha Arabic Historical Dictionary, Arab Center for Research & Policy Studies,2) <u>Adjunct Professor</u> in the Master Program, Doha Institute for Graduate Studies, Doha, Qatar.

Contact Information

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Education and Employment

Education:

- 1997 - 2001** **Philosophic Doctorate (PhD) in Computer Sciences** (high honors): Supported by the INCO-DC European Project, in the framework of a joint program between the following Universities: Mohamed First (Oujda-Morocco) and ENS-Lyon and Paul Sabatier (Lyon & Toulouse, France). It was defended in October 2001.
Major Areas: Parallel & Distributed Computing Applied to Computational Linguistics.
Supervisors: E.M. Daoudi (Morocco) and N. Revol (France). With co-supervising of A.Mezian (Morocco) and R.A. Obrecht (France)
Dissertation: *Parallelization of HMM-based automatic speech recognition applications.*
- 1996 - 1997** **Master of Science (M.Sc) in Computer Sciences** (high honors): Supported by the DAPPI European Project, in the framework of a joint program between the following universities: Mohamed First (Morocco) and Polytechnic (Belgium). It was defended in November 1997.
Major Areas: Parallel processing and Distributed Computing.
Supervisors: E.M. Daoudi (Morocco) and P. Manneback (Belgium).
Thesis: *Study and implementation of some numerical Methods for Eigenvalues computing on a T9000-Transputer parallel machine.*
- 1991– 1996** **Bachelor of Science (B.Sc) in Computer Sciences:** highest honors (ranked 1st), July 1996. **University:** Caddi-Ayyad, Marrakech, Morocco.
- 1985– 1991** **Baccalaureate:** Mathematical Sciences with highest honors (ranked 1st), Jun 1991. **High School:** Zouerate, Mauritania,

Employment:

September 2017 → Now

Adjunct Professor in the Computational Linguistics Master Program, Doha Institute for Graduate Studies, Doha, Qatar.

September 2015 → Now

Computer Scientist, the Doha Arabic Historical Dictionary @ Arab Center for Research & Policy Studies, Doha, Qatar.

Septembre 2014 → August 2015

Sabbatical leave in IRIT (Institut de la Recherche en Informatique de Toulouse), Paul Sabatier University, Toulouse, France,
Sponsored by the Arab Fund for Economic and Social Development (Fellowship Program).

April 2012 → August 2014

Senior Scientist at the Islamic and Arabic Computing Center, Al Imam Mohammad Ibn Saud Islamic University, Riyadh, KSA.

September 2011 → August 2014

Information Technology Consultant at the IT Deanship, Al Imam Mohammad Ibn Saud Islamic University, Riyadh, KSA.

September 2002 → August 2011

Faculty member at the Department of Computer Science, Faculty of Computer and Information Sciences, Al Imam Mohammad Ibn Saud Islamic University, Riyadh, KSA.

June 2007 → July 2007

Visiting Researcher at the Computer Science Research Institute of Toulouse (IRIT), University of Paul Sabatier, Toulouse, France.

September 2001 → August 2002

Post-doc position, supported by the International Organization of French-Speaking (Bourses d'excellences de la francophonie); Computer Science Research Institute of Toulouse (IRIT), University of Paul Sabatier, Toulouse, France.

September 2000 → November 2000

Research position (Supported by the INCO-DC European project) at the Laboratory of Parallel Processing, LIP-ENS (Ecole Normale Supérieure de Lyon), France.

March 2000 → April 2000

Research position (Supported by the TMII-I Tuniso-Maroccan project) at the University of Tunis1, Tunis, Tunisia.

July 1996 → August 1996

Temporary software developer at the ERAC-Tensift Company. Marrakech, Morocco.

Scholarships:

- **January 1998:** Awarded Scholarship from the INCO-DC European Project for **Ph.D.**
- **July 1996:** Awarded Scholarship from the DAPPI European Project for **M.Sc.**
- **September 1991:** Awarded Scholarship from the Government of Mauritania for **B.Sc.**

Languages:

Arabic, French, English

Research Resume

Research Interests:

- Language Processing Technologies
- Arabic & Islamic Computing
- Assistive Technologies for Deaf and Blind People
- Computer-Aided Education Technologies
- E-learning
- High Performance Computing (HPC).

Research Funded Projects:

- Principal investigator of the **“Part of Speech Tagging of the Holy Quran”** Project. We proposed in this work to complete the preparation of a distinguished corpus related to the Holy Quran, built in a previous project funded by KACST under grant number "AT-25-113", by tagging part of speech of the Holy Quran and then adding them to the corpus. Our methodology consisted in extracting the Arabic sentence structures and representing them by appropriate statistical models; then, a tagging system was proposed and used to represent morpho-syntactic properties of Arabic terms. The statistical models are trained on a dataset manually prepared by expert linguists, and then used progressively to tag new verses of the Holy Quran; at each step, the output of the automatic tagging is manually validated and employed to re-train the model again to increase its ability of recognition in a further step. This project was sponsored by KACST under grant number "AT30-199". Successfully completed.
- Principal investigator of the **"Context-based morphological analyzer"** Project. Morphological analysis techniques analyze natural words by considering their internal morphological structures. Available morphological analyzers, such as AraMorph or Elkhilil for example, return all possible solutions of the analyzed word without considering its context if it is provided in a sentence. Our objective in this project was to build a statistical model based on the Arabic sentence structure to select a best solution from those returned by a morphological analyzer based on the context. It was funded by the Deanship of Scientific Research at the Imam University. Successfully completed.
- Principal investigator of the **"Translation from Arabic Text to Saudi Sign Language"** Project. Two main problems were being treated in this project: automatic translation from Arabic to sign language (machine translation problem) and visualization of signs (computer graphics problem). A statistical approach based on the sentence structure of both source and target languages was considered for the first problem. For the second one, an avatar approach (3D rendering) was considered by developing signing system with two components: sign-builder and sign-player. At the end of the project, we developed a prototype web-application for teaching Arabic sign language based on these approaches. This project was funded by the National Science, Technology, and Innovation Plan (NSTIP), KACST, KSA. Successfully completed.

- Head and principal investigator of the "**Computerized Teaching of the Holy Quran**" Project, which aims to develop an appropriate environment for self-learning of the Holy Quran and its sciences. Different tracks have been designed to carry out this project. In the first track, the focus was on gathering and improving the most important aspects related to the recitation and memorization of the Holy Quran that are available in the existing Quranic programs, and then putting them in a comprehensive and consistent environment. In the second track, speech recognition techniques have been used to assist reading the noble Quran. In the third track, techniques for determining the similarity between verses (ayah آية) of the noble Quran were investigated. Computer-tools have been developed for analyzing the text of the noble Quran based on complete words and their stems in order to link similar verses. In the fourth track, a sub-system for teaching tajweed rules was developed; a mathematical formulation of tajweed rules was proposed and then programmed in an engine that can be used to detect places of tajweed rules in the Quranic verses and also to assist learning them. This project was sponsored by KACST for four years, starting from March 2006 (grant number AT25-113). It has led to very important outcomes: corpora for the holy Quran (sound corpus and textual one), HMM-based recognizer for the Quranic sounds, engine for Tajweed rules, another engine for similarity between Quranic terms, a prototype environment for learning the Holy Quran & its sciences, etc.
- principal investigator of the "**Part-Of-Speech tagging (POS) For Arabic Language**" Project, which aims to use an appropriate stochastic approach with a rule-based one to build a model able to identify the main constituents of a given Arabic sentence. For this purpose, we have used a hybrid method that combines morphological analysis with Hidden Markov Models (HMM) using the Arabic sentence structure. On the one hand, the morphological analysis is used to reduce the size of the tags lexicon by segmenting Arabic words in their prefixes, stems, and suffixes due to the fact that Arabic is a derivational language. On the other hand, HMM is used to represent the Arabic sentence structure in order to take into account the logical linguistic sequencing. An appropriate tagging system has been proposed to represent the main Arabic part of speech in a hierarchical manner allowing an easy expansion whenever it is needed. Each tag in this system is used to represent a possible state of the HMM and the transitions between tags (states) are governed by the syntax of the sentence. This project is also sponsored by KACST as a part of a big project relating to the development of Arabic processing tools. It has been successfully finished.
- Etc.

Publications (Most Relevant):

— Technical/Research Reports:

- **Y.O.M. Elhadj**, A. Ammar, R. Bouziane. (2014). *Part of Speech Tagging of the Holy Quran*. Final Technical Report (Research Project "AT-30-199" Funded by the King Abdulaziz City for Science & Technology), KACST, Riyadh, KSA.
- **Y.O.M. Elhadj**, Z.A. Zemirli. (2012). *Virtual Translator from Arabic text to Saudi Sign-Language (TA2SaL)*. Final Technical Report (Research Project "08-INF432-08" Funded through the

National Science, Technology, and Innovation Plan), NSTIP, Riyadh, KSA.

- **Y.O.M. Elhadj**, I. Alsughayeir, A. Alansari, M. Alghamdi, M. Alkanhal, Y. Alohal. (2010). *Computerized teaching of the Holy Quran*. Final Technical Report (Research Project "AT-25-113" Funded by the King Abdulaziz City for Science & Technology), KACST, Riyadh, KSA.
- **Y.O.M. Elhadj**, R. Andre-Obrecht. (2002). *Parallelization of Continuous Speech Recognition applications (in French)*. Research Report (Research Project Funded by the Organization of French-Speaking Countries), IRIT, July 2002, Toulouse, France.
- **Y.O.M. Elhadj**, N. Revol. (2001). *Parallelization of automatic speech recognition applications*. Research Report (Part of a European Research Project), RR'02, LIP-ENS and RR-4110, INRIA, January 2001, Lyon, France.

— **Book Chapters:**

- **Y.O.M. Elhadj**. (2015). *Automatic Speech Recognition and Its applications in the Holy Quran "Reality and ambition"*. In: Y. AlArian (ed) *Arabic-letters and computing-techniques: research in Arabic computing* "الحرف العربي والتقنية: ابحاث في حوسبة العربية". The King Abdullah Bin Abdulaziz International Center for Serving the Arabic Language. ISBN: 6039064889, 9786039064886. <https://books.google.com.qa/books?id=BYj7DAEACAAJ>
- **Y.O.M. Elhadj**, M. Alghamdi, M. Alkanhal. (2013). *Approach for Recognizing Allophonic Sounds of the Classical Arabic Based on Quran Recitations*. In: Dediu AH., Martín-Vide C., Truthe B., Vega-Rodríguez M.A. (eds) *Theory and Practice of Natural Computing*. TPNC 2013. Lecture Notes in Computer Science, Vol. 8273, pp 57-67. Springer, Berlin, Heidelberg. → **(Major Indexing: ISI, dblp) → (Acceptance Rate: 40.42%)**.
- **Y.O.M. Elhadj**, M. Alghamdi, M. Alkanhal. (2013). *Phoneme-Based Recognizer to Assist Reading the Holy Quran*. In: Thampi S., Abraham A., Pal S., Rodriguez J. (eds) *Recent Advances in Intelligent Informatics*. Advances in Intelligent Systems and Computing, Vol. 235, pp 141-152. Springer, Cham. → **(Major Indexing: ISI, dblp, Scopus, EI-Compendex)**.
- **Y.O.M. Elhadj**. (2012). *Multimedia Educational Content for Saudi Deaf*. In: Huang T., Zeng Z., Li C., Leung C.S. (eds) *Neural Information Processing*. ICONIP 2012. Lecture Notes in Computer Science, Vol. 7666, pp 164-171. Springer, Berlin, Heidelberg. → **(Major Indexing: ISI, dblp, ACM)**.
- **Y.O.M. Elhadj**, Z.A. Zemirli, K. Ayadi. (2012). *Development of a Bilingual Parallel Corpus of Arabic and Saudi Sign Language: Part I*. In: Abraham A., Thampi S. (eds) *Intelligent Informatics*. Advances in Intelligent Systems and Computing, Vol 182, pp 285-

295. Springer, Berlin, Heidelberg. → **(Major Indexing: ISI, dblp, Scopus, EI-Compendex)** → **(Acceptance Rate: 32.7%)**.

- **Y.O.M. Elhadj**, M.AounaAllah, I.A AlSughayeir, A.M. Alansari. (2012). *A New Scientific Formulation of Tajweed Rules for E-Learning of Quran Phonological Rules*. In: Anderson Silva, Elvis Pontes, Adilson Guelfi, Sergio Takeo Kofuji (eds) E-Learning - Engineering, On-Job Training and Interactive Teaching. InTech.
- E.M. Daoudi, P. Manneback, A. Meziane, **Y.O.M. Elhadj**. (2000). *Study of the Load Balancing in the Parallel Training for Automatic Speech Recognition*. In: Bode A., Ludwig T., Karl W., Wismüller R. (eds) Euro-Par 2000 Parallel Processing. Euro-Par 2000. Lecture Notes in Computer Science, Vol 1900, pp 506-510. Springer, Berlin, Heidelberg. → **(Major Indexing: ISI, dblp)**
- E.M. Daoudi, A. Meziane, **Y.O.M. Elhadj**. (2000). *Study of Parallelization of the Training for Automatic Speech Recognition*. In: Bubak M., Afsarmanesh H., Hertzberger B., Williams R. (eds) High Performance Computing and Networking. HPCN-Europe 2000. Lecture Notes in Computer Science, Vol 1823, pp 576-579. Springer, Berlin, Heidelberg. → **(Major Indexing: ISI, dblp)**
- E.M. Daoudi, A. Meziane, **Y.O.M. Elhadj**. (2000). *Parallel training for the automatic speech recognition using the centisecond TLHMM model*”, ACIDCA’2000, pp: 142–147 (Vision and Pattern Recognition), Tunisia 2000.

— Journal Papers:

- K.Ayadi, **Y.O.M. Elhadj**, A.Ferchichi. (2018). *Toward an Automatic Translation System from Arabic Texts to Arabic Sign language: a rule-based component*. Submitted to the ACM TALLIP Journal. → **(Listed in the Science Citation Index Expanded)**.
- A.Absah, M. Deriche, M. Elshafei, **Y.O.M. Elhadj**. B.H Juang (2018). *A Hybrid Unsupervised Segmentation Algorithm for Arabic Speech Using Feature Fusion and a Genetic Algorithm*. IEEE Access Journal, Vol. 6, pp. 43157 - 43169. → **(Major Indexing: Scopus, Thomson Reuters, JCR-IF: 3.557)**.
- M.O.M Khalifa, **Y.O.M. Elhadj**, A.Yousfi, M. Belkasmi. (2017). *Constructing accurate and robust HMM/GMM models for an Arabic speech recognition system*. International Journal of Speech Technology (IJST), Vol. 20, N0. 3, pp. 937-949, Springer. → **(Major Indexing: Scopus, ACM DL)**.
- M.O.M. Khalifa, M. Belkasmi, **Y.O.M. Elhadj**, A.Yousfi. (2017). *Strategies for Implementing an Optimal ASR System for Quranic Recitation Recognition*. International Journal of Computer Applications (IJCA), Vol. 172, N0. 9, pp. 35-41. → **(Major Indexing: ProQuest, CiteSeerX, EBSCO)**.

- M.O.M. Khalifa, **Y.O.M. Elhadj**, A.Yousfi, M. Belkasmi. (2017). *Helpful Statistics in Recognizing Basic Arabic Phonemes*. International Journal of Advanced Computer Science and Applications (IJACSA), Vol. 8, N0. 2, pp. 238-244. → **(Indexing: Web of Science, Scopus, Semantic Scholar)**.
- M.O.M. Khalifa, A.Yousfi, **Y.O.M. Elhadj**, M. Belkasmi. (2017). *Enhancing Arabic Phoneme Recognizer using Duration Modeling Techniques*. International Journal of Advances in Computer Science & Its Applications (IJCSIA), Vol. 7, N0. 1, pp. 57-61. → **(Major Indexing: EBSCO, ProQuest, SEEK dl)**.
- **Y.O.M. Elhadj**, M.O.M. Khalifa, A.Yousfi, M. Belkasmi. (2016). *An Accurate HMM-Based Recognizer for Basic Arabic Sounds*. ARPN Journal of Engineering and Applied Sciences (ISSN: 1819-6608), Vol. 11, N0. 5, pp. 3239-3243. → **(Major Indexing: Scopus)**.
- **Y.O.M.Elhadj**, Kamel Ayadi, Ahmed Ferchichi. (2016). *Preparation of an Islamic Parallel Bilingual Corpus for Deaf People with 3D Animations*. International Journal on Islamic Applications in Computer Science and Technology (IJASAT), Vol. 4, N0. 3, pp. 28-35.
- A. Kadim, A. Lazrek, **Y.O.M. Elhadj**. (2013). *Dual Hidden Markov Model - New Approach for an Accurate Arabic Part-of-Speech Tagging*. The LINGUISTICA COMMUNICATIO Journal, Vol. 5, 2013.
- **Y.O.M. Elhadj**, M. AlGhamdi, M. AlKanhil, A.M. Alansari. (2012). *Towards an Automatic Corrector of Quranic Recitation Integrated within an Environment for Self-Learning of the Holy Quran (In Arabic)*. Computer Research Journal published by the Federation of Arab Scientific Research Councils, Vol. 11, No.1.
- **Y.O.M. Elhadj**, Z.A. Zemirly, A.M. Alansari. (2011). *Towards a syntactic analyzer of Arabic expressions: A linguistic approach based on morphological analysis (In Arabic)*. Computer Research Journal published by the Federation of Arab Scientific Research Councils, Vol. 10, No.2.
- **Y.O.M. Elhadj**, Z.A. Zemirly. (2011). *Using 3-D Animation to build an Animated Religious Dictionary for Saudi Sign Language: Version 1 (In Arabic)*. International Journal of Computer Science and Engineering in Arabic, Vol.4, No.1.
- B. Alfarj, W. Alrajhi, **Y.O.M. Elhadj**. (2011). *Avatar-Based Approach for teaching Unified Arabic Sign Language (in Arabic)*. Journal of Communications and Computer Engineering, Vol. 2, No.2.
- **Y.O.M. Elhadj**. (2010). *Automatic Memorization of the Holy Quran (in Arabic)*. ACS Journal, Vol. 3, No.1.
- **Y.O.M. Elhadj**, A.M. Alansari, I.A AlSughayeir (2010). *Using Statistical Models for Automatic Recognition of Arabic Terms*

Properties (in Arabic). International Journal of Computer Science and Engineering in Arabic, Vol. 3, No 2.

- **Y.O.M. Elhadj**. (2010). *E-Halagat: An E-Learning System for Teaching the Holy Quran*. Turkish Online Journal of Educational Technology (TOJET), Vol. 9, No 1, pp: 54-61, (ISSN: 2146-7242). **(Major Indexing: SSCI)**.
- **Y.O.M. Elhadj**. (2009). *Statistical Part-of-Speech Tagger for Traditional Arabic Texts*. Journal of Computer Science, Vol. 5, No 11, pp: 794-800. **(Major Indexing: ISI Web of Science)**
- **Y.O.M. Elhadj**. (2009). *Sound Database with Perfect Reading of the Last Part of the Holy Quran*. IJCSNS, Vol. 9, No 7, pp: 85-90.
- **Y.O.M. Elhadj**, I.A AlSughayeir, A.M. Khorsi, A.M. Alansari. (2009). *Morphology Analysis of the Holy Quran (in Arabic)*. International Journal of Computer Science and Engineering in Arabic, Vol. 3, No 1.

— Conference Papers:

- K.Ayadi, **Y.O.M. Elhadj**, A.Ferchichi. (2018). *Prototype for Learning and Teaching Arabic Sign Language using 3D Animations*. Proc. of the 2018 International Conference on Intelligent Autonomous Systems (ICoIAS'2018), pp. 51-57. → **(Major Indexing: Scopus, EI Compendex)**.
- M. Khalifa, **Y.O.M. Elhadj**, A.Yousfi, Belkasmi. (2015). *Toward a High-Performance Recognizer for Classical Arabic Sounds*. Proc of the IEEE International Conference on Intelligent Systems and Computer Vision (ISCV 2015), held in Fez-Morocco, March 25-26, 2015. → **(Acceptance Rate: ~44%)**. **(Major Indexing: IEEE Xplore DL, Scopus)**.
- **Y.O.M. Elhadj**, A. Abdelalil, R. Bouziane, A. Ammar. (2014). *Revisiting Arabic Part of Speech Tagsets*. Proc of the 11th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2014), pp. 793-802, IEEE Computer Society. → **(Acceptance Rate: 45%)**. **(Major Indexing: IEEE Xplore DL, Web of Science, ERA 2015, etc.)**
- **Y.O.M. Elhadj**, R. Bouziane, A. Abdelalil, A. Ammar. (2013). *Infrastructure of a POST for Quranic vocabulary: Morpho-Syntactic characteristics and features*. Proc. of the 9th International Computing Conference in Arabic (ICCA 2013).
- A. Abdelalil, **Y.O.M. Elhadj**, R. Bouziane. (2013). *Toward an Efficient Arabic Part of Speech Tagger*. Proc of the 10th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2013).
- **Y.O.M. Elhadj**, Z.A. Zemirli, B. Al-faraj. (2012). *Towards a unified 3D animated dictionary for Saudi sign language*. ICACCI '12 Proceedings of the International Conference on Advances in

Computing, Communications and Informatics, pp. 910-917, ISBN: 978-1-4503-1196-0, ACM-DL. (**Major Indexing: dblp, ACM**) → (**Acceptance Rate: 30.9%**).

- Z.A. Zemirli, **Y.O.M. Elhadj**. (2012). Morphar+: An Arabic morphosyntactic analyzer. ICACCI '12 Proceedings of the International Conference on Advances in Computing, Communications and Informatics, pp. 816-823, ISBN: 978-1-4503-1196-0, ACM-DL. (**Major Indexing: dblp, ACM**) → (**Acceptance Rate: 30.9%**).
- **Y.O.M. Elhadj**, Z.A. Zemirly, A.M. Alansari. (2011) A morphological-based Approach for Syntactical Analysis : Version 2 (In Arabic). Proc. Of the 2nd *Computational Linguistics Symposium*, Riyadh, Saudi Arabia, November, 28-30, 2011.
- **Y.O.M. Elhadj**, M. Aoun-allah. *A Machine-Readable Formulation of Tajweed Rules for Fast & Efficient Processing*. Proc of the ICIST'11, April 24-26, tebessa, Algeria, 2011.
- **Y.O.M. Elhadj**, Z.A. Zemirly, A.M. Alansari. A morphological-based Approach for Syntactical Analysis : Version 1 (In Arabic). Proc. Of the meeting of the ALECSO Experts for Arabic Automatic Processing, Damascus, April 18-20, 2011.
- **Y.O.M. Elhadj**, M. AlGhamdi, M. AlKanhali, A.M. Alansari. *Automatic Recognition of Quranic Sounds in the Recitation (in Arabic)*. The 6th International Computing Conference in Arabic (ICCA10), pp: 141-160, May 20-21, Hammamat – Tunisia, 2010.
- **Y.O.M. Elhadj**, M. AlGhamdi, M. AlKanhali, A.M. Alansari. *Sound Corpus of a part of the noble Quran (in Arabic)*. Proc. of the International Conference on the Glorious Quran and Contemporary Technologies, King Fahd Complex for the Printing of the Holy Quran, Almadinah, Saudi Arabia, October 13-15, 2009.
- **Y.O.M. Elhadj**, M.AounaAllah, A.M. Alansari, I.A AlSughayeir. *Interactive learning system for Tajweed*. Proc. of the International Conference on the Glorious Quran and Contemporary Technologies, King Fahd Complex for the Printing of the Holy Quran, Almadinah, Saudi Arabia, October 13-15, 2009.
- **Y.O.M. Elhadj**, I.A AlSughayeir, A.M. Alansari. *Arabic part-of-speech tagging using the sentence structure*. Proceeding of the 2nd International Conference on Arabic Language Resources and Tools, pp: 241-245, Cairo, Egypt, April 22-23, 2009.
- **Y.O.M. Elhadj**. Preparation of speech database with perfect reading of the last part of the Holy Quran (in Arabic). Proc. of the 3rd IEEE International Conference on Arabic Language Processing (CITAL'09), pp: 5-8, May 4-5, 2009, Rabat, Morocco.
- **Y.O.M. Elhadj**, I.A AlSughayeir, A.M. Khorsi, A.M. Alansari. *An indexed Database with Morphology Analysis of the Holy Quran (in Arabic)*. Proc. of the 5th International Conference on Computer

Science Practice in Arabic, pp: 72-84, May 10-11, 2009, Rabat – Morocco.

- M. AlGhamdi, **Y.O.M. Elhadj**, M. AlKanhal. *Manual System to Segment and Transcribe Arabic Speech*. Proc. of IEEE/ICSPC'07, pp. 233-236, November 24-27, 2007, Dubai, UAE.
- **Y.O.M. Elhadj**, I.A AlSughayeir. *Integrated Environment for Teaching the Holy Quran (in Arabic)*. Proc. of ITRAS'07, pp: 315-331, Riyadh, Saudi Arabia, March 2007.
- M. AlGhamdi, A.M. Alansari, **Y.O.M. Elhadj**, M. AlKanhal. *New Method for Coding Arabic Sounds (in Arabic)*. Proc. of ITRAS'07, pp: 792-813, Riyadh, Saudi Arabia, March 2007.
- H. Sallay, **Y.O.M. Elhadj**. *Efficient Arabic Text Compression Algorithms (in Arabic)*. Proc. of ITRAS'07, pp: 731-744, Riyadh, Saudi Arabia, March 2007.
- I.A AlSughayeir, **Y.O.M. Elhadj**. *Computerized Quran Products: State-Of-Art (in Arabic)*. Proc. of STCEX'06, pp: 304-313, Riyadh, Saudi Arabia, December 2-6, 2006.
- **Y.O.M. Elhadj**, I.A AlSughayeir. *Computerized Teaching of the Holy Qurans: Survey Study (in Arabic)*. Proc. of UTTIAT'05, pp: 141-182, Dammam, Saudi Arabia, 2005.
- E.M. Daoudi, A. Meziane, **Y.O.M. Elhadj**. *Parallel TLHMM for Automatic Speech Recognition Applications*. Proc. of the 16th IMACS'00 Congress, Lausanne, Switzerland, August 21-25, 2000.
- E.M. Daoudi, A. Meziane, **Y.O.M. Elhadj**. (2000). *Parallel Training for Automatic Speech Recognition Applications Using the Centisecond TLHMM model*. Proc. of ACIDCA'00, Vol. 3, pp: 142-147, Monastir, Tunisia.
- E.M. Daoudi, A. Meziane, **Y.O.M. Elhadj**. Equilibrage de charges dans un apprentissage parallèle pour la Reconnaissance de la Parole (in French). Proc. of JEP'00, pp: 313-316, Aussois, France, Jun 19-23, 2000.

— Thesis:

- Ould Mohamed Elhadj, Yahya. Outil de Parallélisation des Applications de la Reconnaissance Automatique de la Parole. PhD Thesis, University of Mohamed 1st, Oujda, Morocco, September 2001.
- Ould Mohamed Elhadj, Yahya. Etude et implémentation des méthodes numériques parallèles pour le calcul des valeurs propres sur une machine multiprocesseur à base de Transputers T9000. M.Sc. Dissertation, University of Mohamed 1st, Oujda, Morocco, December 1997.

Consulting, Scientific, and Academic Activities

Consultancy & Cooperation:

- Part Time Consultant and Reviewer at the King Abdullah bin Abdulaziz International Center for Arabic Language Services, Riyadh, KSA (since 2014).
- Cooperation with the National Center for E-Learning and Distance Learning, KSA (since 2011).
- Permanent Consultant at the Deanship of Information Technology, Al Imam University, KSA **(since 2011)**.
- Expert in the field of Automatic Processing of the Arabic Language at the Arab League Educational, Cultural, and Scientific Organization (ALECSO) **(since 2010)**.
- Part Time Consultant for academic Programs at Abdullah Ibn Yacin University, Mauritania **(2010-2011)**.
- Cooperation with the King Fahd Complex for Printing of the Holy Quran (KFCPHQ, Al-Madinah) in the field of Quran & Islamic Computing.
- Member of the review panel of research projects at the General Directorate of Research Grants, KACST, KSA (since 2006).

Educational curricula:

- Postgraduate Program:
 - Proposing specialized courses in computational linguistics for graduate program at the Arabic Language department, College of Art and sciences, Qatar University; adopted in the academic year 2018/2019.
 - Developing and teaching a computational linguistics' s course in the Arabic Linguistics & Lexicography master program at the Doha Institute for graduate studies, from 2017 till now.
 - Developing and managing a master's program in computer science at the College of Computer and Information Sciences, Al Imam University, KSA. The program has been approved and started in the academic year 2011/2012.
 - Helping to design and establish (finalizing) a master's program in informatics for the College of sciences, University of Nouakchott, Mauritania.
- Undergraduate Program:
 - Curriculum of Computer Science in the College of Computer and Information Sciences, Al Imam University, KSA.
 - 1st working curriculum for Computer Sciences at Abdullah Ibn Yacin University, Mauritania.
 - Revising and evaluating the academic program of the Riyadh-College of Technology, KSA.

Journals' Editorial Boards:

- Editor-In-Chief of the **International Journal of Computer Science and Engineering in Arabic** published by Phillips Publishing Company **(since January 2012)**.
- Member of the editorial board of the Computer Research Journal published by the Federation of the Arab Scientific Research Councils (since 2010).

- Member of the editorial board of the Journal of Communications and Computer Engineering (<http://www.m-sciences.com/index.php?journal=jcce>) (since 2011).
- Member of the editorial board of the **International Journal “Communications of the Arab Computer Society”** (<http://comm.arabcomputersociety.org>) (since 2010).
- Member of the editorial board of the **International Journal “Turkish Online Journal of Educational Technology”** (<http://www.tojet.net>) (since 2009).
- Member of the Review Panel of the International Journal of Speech Technology, Springer (since 2010) <http://www.springer.com/engineering/signals/journal/10772>.
- Member of the Review Panel of the Journal of King Saud University - Computer and Information Sciences, Elsevier <http://ees.elsevier.com/jksu-cis>.

Journals Guest Editor:

- Guest editor of a special issue of the **International Journal “Communications of the Arab Computer Society”**: Vol. 5, n 1, published in June 2012.
- Guest editor of two special issues of the Journal of Communications and Computer Engineering, Vol. 2, n 1-2, January 2012.
- Guest editor of a special issue of the **International Journal “Communications of the Arab Computer Society”**: Vol. 4, n 2, February 2012.
- Guest editor of two special issues of the Computer Research Journal published by the Federation of Arab Scientific Research Councils: Vol. 10, n 1-2, November 2011.
- Guest editor of a special issue of the **International Journal of Computer Science and Engineering in Arabic published by Phillips Publishing Company**, Vol. 4, n 1, ISBN 19360525, July 2011.

Conferences Committees:

- Member of the Scientific Committee of the 2nd IEEE International Conference on Natural Language and Speech Processing (ICNLSP 2018), which was held in Algiers, Algeria, April 25-26, 2018 (<http://www.icnls.org>).
- Member of the Scientific Committee of the 1st Joint International Conference between (Qatar University and World Organization for Renovation of Arabic Language) on Computational Linguistics and Arabic Language Processing (JICCLAP2018), which was held in Doha, Qatar, March 13-14, 2018 (<http://www.qu.edu.qa/ar/arabicworkshop18>).
- Member of the Scientific Committee of the 6th International Conference on Information and Communication Technology and Accessibility (ICTA 2017), held in Muscat, Oman, December 19-21, 2017 (<http://www.icta.rnu.tn/>).
- Member of the Scientific Committee of the 4th International Conference on Islamic Applications in Computer Science and Technologies – IMAN, held in Khartoum, Sudan, December 20-22, 2016.
- Member of the Scientific Committee of the 3rd International Conference on Islamic Applications in Computer Science and Technologies – IMAN, which will be held in Konya, Turkey, October 1-3, 2015.
- Member of the Scientific Committee of the 3rd International Conference for Electronic & Distance Learning, which will be held in Riyadh-KSA, March 2-5, 2015 (<http://eli.elc.edu.sa/2015/en>).

- Member of the Scientific Committee of the 5th IEEE International Conference on Arabic Language Processing (CITALA), which will be in Oujda-Morocco, November 26-27, 2014 (<http://www.citala.org/>).
- Member of the Scientific Committee of the 11th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), held in Doha-Qatar, November 10-11, 2014 (<http://cse.qu.edu.qa/aiccsa2014/>).
- Member of the Scientific Committee of the 3rd forum for community partnership in scientific research and knowledge transfer in the Kingdom of Saudi Arabia, held in Riyadh-KSA, April 22-24, 2013.
- Member of the Scientific Committee of the 3rd International Conference for Electronic & Distance Learning, held in Riyadh-KSA, February 4-7, 2013 (<http://eli.elc.edu.sa/2013/en>).
- Member of the Scientific Committee of the 1st International Conference on Information and Communication Technologies for Education and Training (TICET), held in Tunis-Tunisia, May 7-10, 2012 (<https://sites.google.com/site/errakmia28/1-11>).
- Co-chair of the First International Workshop on Digital Technologies for Learning & Teaching Arabic, co-located with the TICET Conference (<https://sites.google.com/site/errakmia17>).
- Member of the Scientific Committee of the 4th IEEE/International Conference on Arabic Language Processing (CITALA), held in Rabat-Morocco, May 2-3, 2012 (www.iera.ac.ma/citala2012).
- Member of the Scientific Committee of the first Saudi Research Chairs' Symposium, held in Riyadh-KSA, April 17-18, 2012.
- Chair of the 4th Virtual Workshop on Computer Science and Engineering in Arabic, held in December, 4-5, 2011.
- Member of the Steering Committee of the ICCA Conference Series (since 2011).
- Co-chair of the Scientific Committee of the 7th International Computing Conference in Arabic, held in Riyadh-KSA, May 31 - June 2, 2011.
- Member of the Scientific Committee of the second forum for community partnership in scientific research and industry in the Kingdom of Saudi Arabia, held in Riyadh-KSA, April 26-28, 2011 (www.partnership-forum.org).
- Member of the Scientific Committee of the 1st International Conference on Information Systems and Technologies, held in Tebessa-Algeria, April 24-26, 2011.
- Member of the Scientific Committee of the 6th International Computing Conference in Arabic and chair of one of its tracks, Hammam-Tunisia, May 8-10, 2010.
- Member of the Scientific Committee of ITRAS'07 Symposium organized by Al Imam Mohamed Bin Saud Islamic University during 6-7 March 2007.
- Etc.

Academic Committees:

- Member of the committee of the "Distinguished Scientist Fellowship" Program at the College of Computer and Information Sciences, Al Imam University (2010).
- Member of the Scientific Committee of the "Science & Technology" Unit at Al Imam University (2010).
- Member of the career-day committee at the College of Computer and Information Sciences, Al Imam University (2009- 2010).

- Head of the Follow-up Committee of alumni students at the College of Computer and Information Sciences, Al-Imam University (2009- 2010).
- Member of the Postgraduate Program Committee at the College of Computer and Information Sciences, Al-Imam University (2008-2010).
- Member of the Bachelor Program Committee for Computer Science in the College of Computer and Information Sciences, Al-Imam University, for four years (2003-2006).
- Member of the Research & Scientific Consultations Center' Council for a year (2007/2008); College of Computer and Information Sciences, Al-Imam University.
- Member of different committees at the department: faculty recruitment, IT, and other activities.
- Webmaster of the College of Computer and Information Sciences, Al-Imam University, for two years (2006-2007).
- Coordinator of Senior Projects at the Computer Science Department for four years (2003-2006); College of Computer and Information Sciences, Al-Imam University. A fully detailed manual of guidelines and regulations of graduation projects have been prepared and published. It is now used as guide for CCIS graduation projects.
- Academic Advisor for different levels at the Computer Science Department; College of Computer and Information Sciences, Al-Imam University.
- Member of Exams' Committee at the college (2003-2004).
- Etc.

Trainings:

- **As trainee:**
 - "Management of Meetings" organized by the Institute of research and consultancy services at Al-Imam University, Riyadh-KSA.
 - "Project Management with the use of Microsoft Project" organized by "Emcanat" Center in cooperation with the Institute of research and consultancy services at Al-Imam University, KSA, during the period 3-19/5 / 2008.
 - "Strategic Planning in Academic Institutions" organized by the Institute of research and consultancy services at Al-Imam University, KSA, during the period 29-31/3/2008.
 - "Sphinx as development tools for building VLSI Automatic Speech Recognition Systems (VLSI-ASR)" organized within the activities of the ITRAS'07 Symposium, Al-Imam University, KSA, 6-7/3/2007.
 - "Using HTK to develop ASR Systems" organized by King Abdul Aziz City for Science and Technology (KACST), KSA, in 22/6/2006.
 - "The use of technology in the teaching of Islamic and Arabic courses" organized by the Department of Islamic and Arabic Studies at King Fahd University of Petroleum and Minerals, KSA, in 30/11/2005.
- **As trainer:**
 - "Recording and Processing Audio Signals (concepts and fundamentals) with a case study of two tools: Audacity and Praat". Al-Imam University, KSA, 6-7/3/2007.
 - Special courses on "Machine Translation" for students in collaboration with the Deanship of Student Affairs at Al-Imam University, KSA, in the academic year 2004/2005.

Teaching Resume

Undergraduate Teaching:

- Computer Arabization, Computational linguistics (many semesters)
- Systems Programming (two semesters)
- Operating systems (ten semesters)
- Concepts of Programming Languages (four semesters)
- Artificial Intelligence (three semesters)
- Data Structures (four semesters)
- C/C++ Programming Languages (ten semesters)
- Computer Organization & Assembly language (two semesters)
- Discrete math (two semesters)
- Probability & Stochastic Models (one semesters)
- Information Retrieval (two semesters)
- System Analysis and design (one semester)
- Analysis of Algorithms (two semesters)
- Essential of Networks (one semester)
- Introduction to Computers (one semester)
- Computer applications (one semester)
- Pre-calculus and calculus 1&2 (two semesters)
- Leaner Algebra (one semesters)
- Numerical Analysis (two semesters)
- Etc.

Postgraduate Teaching:

- Computational Linguistics (Arabic Computing) (many semesters)
- Introduction to Arabic Natural Language Processing (two semester)
- Selected Topics in Computational linguistics (four semesters)
- Special course on Automatic Speech Recognition (two semesters)

Students Supervision:

- **Undergraduate:** Supervision of many senior projects at the bachelor level in both male and female sections. Many of them received excellent grades (As).
- **Master:** Supervision of some projects at the master level.
- **PhD:** Supervision and co-supervision of four PhD students in Moroccan and Tunisian Universities:
 - o PhD title: Statistical Translator from Arabic texts to Arabic Sign Language, University of Tunis, Tunisia. Successfully defunded in 2020.
 - o PhD title: Automatic Speech Recognition Techniques for Arabic Teaching and learning purposes, ENSIAS, Rabat, Morocco. Successfully defunded in 2017.
 - o PhD title: Stochastic Part-of-Speech tagging for the Holy Quran, Cadi-Ayyad University, Morocco. Successfully defunded in 2016.
 - o PhD title: Development of an e-learning Environment for the Holy Quran and its sciences, Rachidiya University, Morocco. Suspended!

Referees

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