

Curriculum Vitae

Full Name : Raja BENSALAM

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Age : 36 years

Civil Status: married.



STUDIES AND DIPLOMAS :

2023-.. : National School of engineers of Sfax, Post-doctor in the REGIM laboratory, directed by Pr. Mohamed Adel Alimi.

2013-2017 : Faculty of Economic Sciences and Management of Sfax, third cycle, PhD thesis on Computer Sciences, co-directed, under a cotutelle agreement, by Mr. Kais HADDAR (Sfax University, Tunisia) and Mr. Philippe BLACHE (Aix-Marseille University, France). PhD thesis subject: "Building of Arabic linguistic resources using Property Grammars by incorporating control mechanisms".

2017: Doctoral Diploma in Computer Science, as **Highest Honor**.

2010-2012: Higher Institute for Computer Science and Multimedia of Sfax, Third Cycle, Research Master: I2M (Computer Science and MultiMedia).

2012: Master Diploma in Computer Science and Multimedia, as **Very good**.

2005-2009: Higher Institute for Computer Science and Multimedia of Sfax, First and second cycles of master's degree in Management computing and E-commerce (MICE).

2009: Master's degree in Management computing and E-commerce, as **Good**.

2003-2005: High school 7 November 1987, Economics and Management Section.

2005: Bachelor's degree, Average 14,82 – as **Good**.

Summary of university curriculum

Diplomas	Specialty	Duration	Mention
Bachelor	Economics and Management	-	Good
Master	Management computing and E-commerce	4 years	Good
Research Master	Computer Science and Multimedia	2,5 years	Very Good
PhD	Computer Science	5 years	Highest Honor

RESEARCH DOMAINS :

- Natural Language Processing (NLP) ; Arabic Language

- Artificial Intelligence ; Machine Learning
- Treebanks

SCIENTIFIC ACTIVITIES :

➤ Publications in international journals

- [1] **Raja Bensalem**, Kais Haddar, and Philippe Blache. 2023. An Arabic Probabilistic Parser Based on a Property Grammar. ACM Trans. Asian Low-Resour. Lang. Inf. Process. 22, 10, Article 237 (October 2023), 25 pages. <https://doi.org/10.1145/3612921> (**accepted**)
- [2] **Raja Bensalem**, Kais Haddar and Philippe Blache. (January 2022). An hybrid learning model for the Arabic parsing. Concurrency and Computation: Practice and Experience (**submitted**).

Summary of publications in international journals

N°	Article	Journal	Class
1	An Arabic Probabilistic Parser Based on a Property Grammar	ACM Transactions on Asian and Low-Resource Language Information Processing	Q2
2	An hybrid learning model for the Arabic parsing	Concurrency and Computation: Practice and Experience	Q3

➤ Communications in conferences

- [1] **Raja Bensalem**, Nesrine Kadri, Kais Haddar and Philippe Blache. *Evaluation and enrichment of Stanford Parser using an Arabic Property Grammar*, In the proceedings of Computational Linguistics and Intelligent Text Processing (CICLing 2017), Springer International Publishing, Hungary, 2018, pp. 170-182. doi:10.1007/978-3-319-77113-7 14.
- [2] **Raja Bensalem**, Kais Haddar and Philippe Blache. *A Property Grammar-Based Method to Enrich the Arabic Treebank ATB*. Chapter in the book of Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K) of the series "Communications in Computer and Information Science" (CCIS), Springer Verlag, 2016, pp. 302-323. doi:10.1007/978-3-319-52758-1 1.
- [3] **Raja Bensalem**, Kais Haddar and Philippe Blache. *A Formal Modeling Method to Enrich the Arabic Treebank ATB with Syntactic Properties*. In: the proceedings of the International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (KEOD) , IC3K 2015, SCITEPRESS - Science and Technology Publications, Lda, Lisbon, Portugal, 2015, p. 108-117. doi:10.5220/0005617001080117.
- [4] **Raja Bensalem**, Kais Haddar and Philippe Blache. *Enrichment of the Arabic treebank ATB with syntactic properties*. In the proceedings of the First International Conference on Arabic Computational Linguistics (ACLing), associated to the 16th CICLing, 2015, IEEE CPS, Egypt, pp. 15-20, doi: 10.1109/ACLing.2015.9.
- [5] **Raja Bensalem**, Marwa Elkarwi, Kais Haddar and Philippe Blache. *Building an Arabic Linguistic Resource from*

a Treebank: The Case of Property Grammar. In the 17th International Conference on Text, Speech and Dialogue (TSD), Springer Verlag, 2014, Czech Republic.

- [6] **Raja Bensalem** and Marwa Elkarwi. *Induction d'une grammaire de propriétés à granularité variable à partir du treebank arabe ATB*. in the proceedings of the 16 ème Rencontres des Étudiants Chercheurs en Informatique pour le Traitement Automatique des Langues (RECITAL), in TALN ACL Anthology, 2014, France.

Summary of communications in conferences

N°	Link	Conference	Class
1	https://www.springerprofessional.de/en/evaluation-and-enrichment-of-stanford-parser-using-an-arabic-pro/16186398	CiCLing	B
2	https://www.springerprofessional.de/en/a-property-grammar-based-method-to-enrich-the-arabic-treebank-at/12012736	IC3K (book)	C
3	https://dblp.org/pid/150/3645.html	IC3K	C
4	https://ieeexplore.ieee.org/abstract/document/7422274	ACLing in CiCLing	B
5	https://www.springerprofessional.de/building-an-arabic-linguistic-resource-from-a-treebank-the-case-/2250928	TSD	DBLP
6	https://dblp.org/db/conf/taln/taln2014-4.html	RECITAL in TALN	DBLP

➤ Scientific Outreach

❖ Developed tools

- Property grammar with variable granularity
- Enriched treebank with syntactic properties
- Property-based evaluation measure for syntactic parsers

❖ Reviews

- 12 reviews for the journal « Journal of King Saud University: Computer and Information Sciences » (JKSU-CIS) in the domain of artificial intelligence.

❖ Internships

- **October 2018 - October 2019:** *Internship for integration to the professional life (SIVP) in the company of audiovisual production « ARROUAA »*: Design and animation of animated cartoons.
- **June-July 2014:** *Internship in the research laboratory « Laboratoire Parole et Langage » (LPL)*: Enrichment of the treebank PATB with syntactic properties, directed by Mr. Philippe BLACHE.
- **April 2013:** *Internship in « Laboratoire Parole et Langage » (LPL)*: Induction of a property grammar for the Arabic from the treebank PATB, directed by Mr. Philippe BLACHE.
- **July 2008:** *Internship in the publisher « KITABI »*: design and development of a dynamic website based on the CMS Joomla.

❖ Scientific distinction

○ Selected publications

- Selection of the article “**A Formal Modeling Method to Enrich the Arabic Treebank ATB with Syntactic Properties**” of the conference IC3K to be published as a book **chapter** by **Springer** in the series "Communications in Computer and Information Science" (CCIS)
 - Link of the original article : <https://dl.acm.org/doi/10.5220/0005617001080117>
 - Link of the chapter : <https://www.springerprofessional.de/en/a-property-grammar-based-method-to-enrich-the-arabic-treebank-at/12012736>

○ Participations in scientific conferences and manifestations

- **April 2017** : Participation in the conference *CICLing'2017* (with presentation)
- **November 2015** : Participation in the conference *IC3K'2015* (with presentation)
- **October 2015** : Participation in the conference *NOOJ'2015*
- **December 2014** : Participation in the manifestation *MIRADOC-I'2014*
- **July 2014** : Presence in the conference *TALN-2014* (with poster presentation)
- **December 2013** : Participation in the manifestation *MIRADOC-II'2013* (with presentation)

PEDAGOGIC ACTIVITIES :

➤ Teaching activities

❖ Teaching in academic institutions

2021-2022: Contractual in the Higher Institute of Applied Sciences and Technology of Sousse (ISSATSo):

- « Distributed applications development environments » : 3rd year LFSI (C and P¹)

2020-2021: Contractual in the Higher Institute of Computer science and Management of Kairouan (ISIGK):

- « Electronic payments » : 3rd year ESER (C and P)
- « Foundations of the artificial intelligence »: 3rd year LFSI, 2nd year IG and ISI (C and T²) and 2nd LFSI (P).

2019-2020: Contractual in the Higher Institute of Computer science and Management of Kairouan (ISIGK):

- « Electronic payments » : 3rd year ESER (C and P)
- « Software Engineering » : 3rd year ESER and 2nd year LFSI (T)

¹ C : Course ; P : Practical work

² T : Tutorials

- « Foundations of the artificial intelligence » : 3rd year LFSI (T)
- « Development environments (Java web) »: 2nd year LFSI and ESER (C and P).

2016-2017: Independent Contractor in the Higher Institute of Computer Science and Multimedia of Sfax (ISIMS):

- «PL/SQL » : 1st year multimedia and web Engineer (TP)

2015-2016: Contractual in the Higher Institute of Computer Science and Multimedia of Sfax (ISIMS):

- « Databases Administration and security » : 3rd year LFIM and LATMW (P)
- « Web development I » : 1st year LFIM (P)
- « Design OO II »: 1st year multimedia and web Engineer (P).

2010-2011: Independent Contractor in the Higher Institute of Computer Science and Multimedia of Sfax (ISIMS):

- Practical word (P) de «Preparation to C2I » (1st year LATIM)

Taught disciplines per module, degree, year and university

Module	Discipline	Teaching hours per week	Degree	Academic year	University
Algorithmic and programming	Algorithmique et structures de données II	1,5h of C 3h of TD (5 weeks)	License (1LI)	2022-2023	Sfax
Réseaux informatiques	Fondements des réseaux informatiques	4,5h of TD (5 sweeks)	License (1LI)	2022-2023	Sfax
Distributed Systems	Distributed applications development environments	3h of C	License (3SI)	2021-2022	Sousse
		6h of P			
	OO Programing	6h of TD 3h of TP	License (1LI)	2023-2024	Sfax
Computer science and Web technologies	Electronic payments	3h of C 3h of T	License (3 ESER)	2020-2021 2019-2020	Kairouan
	web development environments (Java)	3h of C 3,75h of P	License (2SI, 2 ESER)	2019-2020	
	Web development I	4,5 of P	License (1LFIM)	2015-2016	Sfax
	Preparation to C2I	6h of P	License (1LATIM)	2011-2012	
Intelligent systems and Decision	Foundations of the artificial intelligence	4,5 of C	License (3LFSI, 2IG et 2ISI)	2020-2021	Kairouan
		5,25 h of T	License (3LFSI, 2IG et 2ISI)	2019-2020 2020-2021	
		4,5h of P	License (2LFSI)	2020-2021	
Information systems and Software	Software engineering	3,75h of T	License (3ESER, 2LFSI)	2019-2020	Sfax
	Introduction to	4,5h of TD	License (1LI)	2022-2023	

engineering	information systems	(5 semaines)			
	Professional Personal "Projects"	4,5h of TD	License (1LI)	2023-2024	Sfax
Databases	PL/SQL	3h of P	Engineering (1IITWM)	2016-2017	Sfax
	Databases administration and security	7,5h of P	License (3LFSL, 3LATMW)	2015-2016	
	Design OO II	3h of P	Engineering (1IITWM)		
Total		C:13,5h T : 12 h P : 38,25 h	License and Engineering	6 academic years	3 universities

C: Courses; T: Tutorials; P: Practical work

❖ Coaching and Participation in the evaluation jury

- **2016/2017 : Co-coaching of Research Master** in Computer science with **Mr. Kais Haddar** in the Faculty of Sciences of Sfax (FSS) :
 - **Nesrine Kadri** on the subject: *Intégration d'une grammaire des propriétés arabes dans l'analyseur syntaxique de Stanford*. The developed tool guided to publish a common article, (entitled [*Evaluation and enrichment of Stanford Parser using an Arabic Property Grammar*](#)) in the conference CiCLing 2017.
- **2020-2021 : Coaching of Fundamental License** in Computer Sciences (SI) in the Higher Institute of Computer science and Management of Kairouan (ISIGK) :
 - **Sabrine Ifaoui** on the subject : *Design and development of a web and mobile application of banking services of the UIB*
 - **Marwen Segni** on the subject : *Development of a desktop application to visualize the treebank PATB : « PATB viewer »*
- **2020-2021 : Coaching of Applied License** in Computer Sciences (SI) in the Higher Institute of Computer science and Management of Kairouan (ISIGK):
 - **Ons Chawach** on the subject: *Design and development of a Facebook Messenger Chatbot for the company « Ennadhafa Judy »*.
- **2020/2021 : Jury President and Examiner** of final year project reports for licenses in the Higher Institute of Computer science and Management of Kairouan (ISIGK):
 - **Oumaima Abidi**, on the subject: *Development of a dynamic web application « Agence Tunihôte »*, coached by Mme. Olfa Chebbi.
 - **Alaa Haroum**, on the subject: *Design and development of a Web-Mobile application of remote service requests*, coached by Mme. Olfa Chebbi.
 - **Rihab Chebil**, on the subject: *Design and development of a web application for printing companies*, coached by Mme. Olfa Chebbi.

➤ **Personal pedagogic production**

❖ **Productions of courses :**

- “ Distributed applications development environments”
- “ Electronic payments”
- “ Foundations of the artificial intelligence”
- “ web development environments (Java)”

❖ **Productions of tutorials (T) :**

- “ Foundations of the artificial intelligence”
- “ Electronic payments”

❖ **Productions of practical work (P) :**

- “ Distributed applications development environments”
- “ Databases administration and security” : Corrections

❖ **Productions of exams :**

- “ Distributed applications development environments”
- “ Electronic payments”
- “ Foundations of the artificial intelligence”

➤ **Certification and software tools**

❖ **Pedagogic and research trainings:**

- Course of **Machine Learning** on the e-learning platform IBM Digital Nation Africa :
 - URL : <https://developer.ibm.com/digitalnation/africa/course/machine-learning-v2/01.03?lang=en&course-lang=en>
- Course of **Agile Methods** on the e-learning platform Idraak :
 - URL : https://www.edraak.org/programs/course-v1:edraak+Agile101+T1_2020/
- Course of **Scrum** on the e-learning platform Udemy :
 - URL : <https://www.udemy.com/course/scrum-le-guide-complet/>
- Training to « **Nooj** » : an NLP platform with finite-State automaton.
 - Digital Research Centre of Sfax (CRNS), Trainer: Max Silberztein (2015).

❖ **Software tools :**

- **Operating Systems:** Mandriva Linux, Ubuntu Linux, Windows.

- **Development:** C, Java, Assembler, Script Shell, HTML, CSS, PHP, JSP, SQL, PL/SQL, VB 6.
- **2D infographics:** Adobe Photoshop, Adobe Illustrator, Adobe Flash.
- **2D animation:** Anime Studio.
- **Video Editing:** Pinnacle Studio, Adobe Première, AVS Video Editor, Camtasia Studio.
- **Databases:** Oracle 11, MySQL, Access.
- **Office automation:** MS Word, MS Excel, MS PowerPoint, Latex.
- **Development Tools :** Rational Rose, JCreator, Netbeans, Eclipse, Visual Studio, Adobe Dreamweaver, Sublime Text, Os-commerce, Joomla, Wordpress, Architect Enterprise, SQL Developer, Nooj, Matlab.
- **Design Methods and Languages:** Merise, UML.

➤ **Mastered development Paradigms**

❖ **Distributed Systems : RMI and Sockets**

- Teaching :
 - In 2021-2022, for the discipline «Distributed applications development environments» (C and P) in ISSATSo (for License).

❖ **Formal Logics**

- Teaching :
 - In 2020-2021, for the discipline «Foundations of the artificial intelligence» (C and T) in ISIGK (for License).

❖ **Expert Systems**

- Teaching :
 - In 2020-2021, for the discipline «Foundations of the artificial intelligence » (C, T and P) in ISIGK (for License).
- Coaching :
 - In 2021-2022, on the development of a Chatbot for the company « Ennadhafa Judy ».

❖ **Agile methodologies**

- Teaching: in 2019-2020, for the tutorials of the discipline « Software Engineering » in ISIGK (for License).
- Trainings :
 - On the e-learning platform Idraak :
 - URL : https://www.edraak.org/programs/course-v1:edraak+Agile101+T1_2020/
 - On the e-learning platform Udemy

- URL : <https://www.udemy.com/course/scrum-le-guide-complet/>

❖ Object-Oriented Approach

- Teaching :
 - In 2019-2020, for the discipline «web development environments (Java)” (C and P) in ISIGK (for License).
 - In 2016-2017, for the discipline «Design OO II» (P) in ISIMS (for Engineering).
- Developed tools :
 - Java Development of the PhD contributions.