Madjid SADALLAH

Ph.D., Postdoctoral Researcher

Models & Tools for Technology-Enhanced Learning (MOTEL) research team
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RESEARCH INTERESTS	Digital Humanities, Human-Computer Interaction, Technology-Enhanced Learning, Learning Analytics, Knowledge Engineering, Document (Re-)Engineering, Multimedia/Hypermedia Systems, Interactive Video/Hypervideo

EDUCATION

Ph.D. in Computer Sciences, 2019
University Abderrahmane Mira (Bejaia – Algeria)
Dissertation: *Models and Tools for Usage based e-Learning Documents Reengineering*
Advisor: Pr. Yannick Prié; Co-Advisor: Dr. Benoît Encelle

Magister in Computer Sciences, 2011
University Abderrahmane Mira (Bejaia – Algeria)
Thesis: *Models and Tools for Hypervideos on the Web*
Advisor: Pr. Yannick Prié; Co-Advisor: Dr. Olivier Aubert
Award: Best Magister thesis of the year, awarded by the University of Bejaia.

Engineer in Computer Sciences, 2004
University of Science and Technology Houari Boumediene, (Algiers – Algeria)
Topic: *Edge detection algorithms: automatic selector of an optimal detection operator*
Advisor: Pr. Samy Ait Aoudia

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher – *Since November 2020*
MOdels and Tools for Enhanced Learning (MOTEL) research team,
Lab-STICC, IMT Atlantique, Brest, France

Research Fellow (Maître de Recherche B) – *May 2019 to November 2020*
Interaction, Data Analytics & Knowledge Discovery research team,
Research Center on Scientific and Technical Information - CERIST, Algeria

Research Assistant (Attaché de Recherche) – *November 2011 to April 2019*
Structured Documents and Multimedia Systems Team,
Research Center on Scientific and Technical Information - CERIST, Algeria

Software & Organization Engineer – *May 2005 to October 2011*
Structured Documents and Multimedia Systems Team,
Research Center on Scientific and Technical Information - CERIST, Algeria

JOURNAL PUBLICATION

Maredj, A., Sadallah, M., Hamouche, L. (2022) A set of rhetorical relationships for educational multimedia document. To appear in *Review of Information Processing at the Digital Age.*

Maredj, A., Sadallah, M. (2022) Une cinquième dimension pour les documents multimédia : La dimension annotation. *Revue de l'Information Scientifique et Technique (RIST)*, 25(2), 12-20.

Sadallah, M., Encelle, B., Maredj, A., & Prié, Y. (2020). Towards fine-grained reading dashboards for online course revision. *Educational Technology Research and Development*, 68, 3165–3186.

Sadallah, M., Encelle, B., Maredj, A., & Prié, Y. (2020). Leveraging learners' activity logs for course reading analytics using session-based indicators. *International Journal of Technology Enhanced Learning*, 12(1), 53-78.

Sadallah, M., Aubert, O. & Prié, Y. (2014). CHM: an annotation- and component-based hypervideo model for the Web. *Multimedia Tools and Applications (MTAP)*, 869–903 .

Maredj, A., Tonkin, N., & Sadallah, M. (2010). MediaStudio: Un système d'édition et de présentation de documents multimédia interactifs. *Revue de l'Information Scientifique et Technique (RIST)*, 18(2), 25-47.

CONFERENCE
PUBLICATION

Sadallah, M., Gilliot, J.-M., Iksal, S., Quelennec, K., Vermeulen, M., Neyssensas, L., Aubert, O., & Venant, R. (2022). Designing LADs that promote sensemaking: a participatory tool based on a refined design space. To appear in *Prceedings of the 17th European Conference on Technology Enhanced Learning (EC-TEL'2022)* and to be published in *Lecture Notes in Computer Science*. Springer, Cham.

Sadallah, M., Encelle, B., Maredj, A., & Prié, Y. (2015). Towards reading session-based indicators in educational reading analytics. *Prceedings of the 10th European Conference on Technology Enhanced Learning (EC-TEL'2015)* published in *Design for Teaching and Learning in a Networked World: Lecture Notes in Computer Science, vol 9307, Tolodo, Spain*(pp. 297-310). Springer, Cham.

Sadallah, M., Encelle, B., Maredj, A., & Prié, Y. (2013). A framework for usage-based document reengineering. In Proceedings of the 2013 ACM symposium on Document engineering (pp. 99–102).

Sadallah, M., Aubert, O., & Prié, Y. (2011). Component-based hypervideo model: high-level operational specification of hypervideos. In Proceedings of the 11th ACM symposium on Document engineering (pp. 53–56).

Sadallah, M., Aubert, O., & Prié, Y. (2011). Hypervideo and Annotations on the Web. In *Proceedings of the 2011 Workshop on Multimedia on the Web, Graz, Austria* (pp. 10-15). IEEE.

Maredj, A., Tonkin, A., & Sadallah, M., (2010). A spatial model for editing multimedia document. In *Proceedings of 10eme Colloque Africain sur la recherche en informatique et mathématiques appliquées- CARI'10, Yamoussoukro-Cote d'ivoire* (pp. 333-340).

Maredj, A., Alimazighi, Z., Tonkin, N., & Sadallah, M. (2008). Un modèle logique de documents pour les interactions multimédia. In *Proceedings of the 5th international conference of electronics and Automatics JTEA'08, Hammamet, Tunisia* (pp. 1635-1639).

Maredj, A., Tonkin, A., Sadallah, M., & Alimazighi, Z. (2008). A flexible distance for the spatial placement in a multimedia document. In *Proceedings of the 3rd International Conference on Information and Communication Technologies: From Theory to Applications, Damas, Syrie* (pp. 1-4).

Maredj,A., Alimazighi, Z., & Sadallah, M. (2007). Extension of the Wahl-Rothermel temporal model for the multimedia documents. In *Proceedings of the Information and Communication Technology and Accessibility : The first International Conference on ICT & Accessibility ICTA'07, Hammamet, Tunisia* (pp. 257–261).

RESEARCH
PROJECTS

LearningDataLab - (2022–2023)

This project aims to federate the collection and analysis of MOOC data of IMT, coming from different providers (EdX, Fun and Coursera), for their use by the institution and for research, especially in learning analytics and educational data mining

AT41 – From the appropriation of digital tools to the transformation of pedagogical practices - (2020–2022)

Partners: Academie Orleans-Tours, ERCAE (Orléans University), MOTEL (IMT Atlantique), LIUM, Techne (Poitiers University)
description: This project mainly aims at analyzing the digital practices of middle school students from their usage and inetraction traces collected on the tablets they use in class. The project focuses on several complementary aspects: the collection of students' traces, the application of educational data mining and learning analytics methods on the traces, the design and co-design of learning dashboards, and the study of the level of appropriation and pedagogical transformations induced.

CoREADA: COurse Reading analytics tools & dashboards - (2015–2019)

Partners: CERIST (Algeria), LIRIS(France), LINA(France)

Description: Reading analytics are learning analytics focusing on learners' content consumption traces, for authors to gain insights on the way they can improve their courses. We mainly worked on the traces of OpenClassrooms MOOC courses, had some results on reading sessions detection, and built dashboards for teachers and course authors. *Responsabilities*:

CEMADoM – Editorial line for a Better Appropriation of the Contents of Multimedia Documents (2013 – 2016) *Partners*: CERIST (Algeria)

Description: Today, it is critical to provide multimedia content creators with facilities to support the production, adaptation and enhancement of their material. At the same time, content consumers demand appropriate tools for interactive and active reading. In such a context, the objective of this project was therefore to develop models, approaches and tools to ensure proper appropriation of multimedia materials. *Responsabilities*:

CHM: Component-based hypevideo model [1] - (2009-2012)

Partners: CERIST (Algeria), LIRIS(France)

Description: Hypervideos are video-centric hypermedia documents that offer a deep integration of audiovisual material in heterogeneous multimedia environmen, promotong unique audiovisual experiences. The purposes and contributions of the CHM project wers : (1) a formal model for describing hypervideo documents ; and (2) a practical framework that allows the design of Web oriented hypervideos (WebCHM). CHM is a sub-project of the *Advene Project*[2] . *Responsabilities*:

MediaStudio 1&2 (2005-2010)

Partners: CERIST (Algeria)

Description: The purpose of the MediaStudio project was to propose models and to develop systems and tools in order to ensure producing and delivering rich, interactive and adaptable multimedia content. *Responsabilities*:

OTHER PROJECTS **CERIST Digital Library** - (2013–2015)

Partners: CERIST
description: *Responsabilities*:

DZ-COVID - (2019–2020)

Partners: CERIST, Algerian Ministry of Health
Description: *responsabilities*:

CERINUX - (2012–2020)

Partners: CERIST
Description: CeriNux is a collaborative project whose objective is to provide the academic community with appropriate resources for the dissemination of free operating systems and software, and to promote the use of open standards. Different actions have been carried out during the project in order to promote the use of open source software by organizing different workshops of popularization and installation, by holding conversion sessions to open source tools at the end of academic institutions, and by motivating developers to get involved in open source projects.
Responsabilities:

- Member of the executive committee
- Medium and advanced-level training in Linux-based operating systems
- Training in scientific writing using LaTeXand `Bibtex`-based tools
- Introduction to data analysis with R and RStudio

TEACHING EXPERIENCE **R Scripting Language and Tools**
Specialized Master in Big Data (PGS, CERIST) – *Since 2018*

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[1] http://advene.org/chm
[2] http://advene.org/

GNU/LINUX
Specialized Master in Big Data (PGS, CERIST) – *Since 2018*
Specialized Master in Security (PGS, CERIST) – *Since 2012*

Computer application and information system
National School of Administration (ENA, Algeria) – *From 2014 to 2017*

EVENT
ORGANISATION

General Chair of the CERIST Challenge Days[3]
National competition related to the use of technology and artificial intelligence (including smart health, smart agriculture, smart environment and smart transportation) to improve living and environment.
First Edition – *CERIST, Algiers. 19-21 June 2018*
Second Edition – *CERIST, Algiers. 15-17 October 2019*

SKILLS

Software and programming
Data analytics: R, SQL, Python, SPSS, Grafana
Web development: HTML, CSS, JavaScript, MEAN stack (MongoDB, Express, AngularJS, and Node.js), WAMP/LAMP (Apache, MySql, and PHP)
Productivity packages : common packages for Windows and Linux, including TEX (LaTEX, BIBTEX), Inkscape
Other: Previous experience in coding using Visual Studio, C, C++, Java

Languages
English - oral: *conversant*; written: *fluent*
French - oral: *fluent*; written: *proficient*
Arabic - oral: *fluent*; written: *fluent*
Kabyle - Mother language

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[3]http://challenge.cerist.dz/