

# Najib BEN AOUN

*PhD Student, Contractual Assistant*



## *CURRICULUM VITÆ*

### Personal Data

**Date of birth** 01 September 1983 (27 ans)  
**Place of birth** Bir Ali, Sfax (Tunisia)  
**Civil status** Single  
**Nationality** Tunisian  
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### Current Situation

**Since Sept. 09** Contractual Assistant, Department of Computer Technology and Multimedia, Institute of Computer Science and Multimedia of Sfax (ISIMS), University of Sfax, Tunisia.  
**Since Oct. 08** PhD Student on Computing System engineering, National School of Engineers, University of Sfax (Tunisia)  
**Since Sept. 07** Member of Research Group on Intelligent Machines (REGIM) National School of Engineers, University of Sfax (Tunisia)  
Member of Intelligent Analysis and Processing of Multimedia Data" (IMM)

### Qualifications

**2007–2008** Master Degree on Computer Science, Dedicated Computer System New Technologies (NTSID), National School of Engineers, University of Sfax (Tunisia)  
**2005–2006** Mastery Degree on Computer Science, Higher Institute of Applied Sciences and Technology of Sousse, (ISSATS), University of Sousse, Tunisia.  
**2003–2004** D.U.P.C. Degree on Computer Science, Higher Institute of Applied Sciences and Technology of Sousse, (ISSATS), University of Sousse, Tunisia.

**June 2002**      Baccalaureate on Experimental Sciences  
Secondary School of Bir Ali, Sfax (Tunisia)

## Research Activities

### Research Interests

My research interests focus on Event detection in video. In this context, I am interested in some large domains:

- ✓ Knowledge extraction
- ✓ Machine learning in the video
- ✓ Classification, Segmentation of video
- ✓ Events Detection in the video
- ✓ Processing and analysis of multimedia data.
- ✓ Video Compression and Encoding.
- ✓ Motion Estimation and compensation in the multi-resolution domains.

### Thesis

**Title**                    *Machine learning method for Knowledge Extraction from the video*

**Abstract**              We have essentially developed a event detection system from the video. For this, we tried to see the various descriptors of the video starting with static descriptors. These descriptors can be applied either directly on the image / scene, or indirectly by applying them to regions or points of interest or segments. These descriptors can also be merged (with certain precautions) to construct a descriptor more efficient to characterize the image / scene more precisely. It was later found, the appropriate descriptor for each concept in evaluating these descriptors by the concept research using SVM as the classification technique.

Then we extracted spatio-temporal descriptors to characterize the video to detect events. Were calculated descriptors based on the movement of image blocks to model events. We developed a system based on the HMMs modeling.

Our job will be to develop a method of feature extraction to detect events in video that will be efficient and quick to achieve good results that we can compete in the competition TRECVID.

**Specialty**              Computer Systems Engineering, National School of Engineers, University of Sfax (Tunisia)

**Registrations**      2 registrations : 2008–2009; 2009-2010.

**Advisor**              **Mr.Chokri BEN AMAR**, *Assistant Professor, University of Sfax, REGIM Laboratory. Tel: (+216) 74 274 088; u (+216) 74 275 595*  
Chokri.benamar@ieee.org - Web page : <http://www.chokri.benamar.regim.org>

## Master

<b>Title</b>	<i>Multiresolution Algorithm for Motion Estimation</i> (In French)
<b>Abstract</b>	Our project of master proposes an algorithm of estimate of movement in the multi-resolution field. The concept of “Quadtree” is exploited in order to reduce the complexity of calculation of the motion estimation. Indeed, we highest will estimate the movement in the tape low frequency of the level of the decomposition of image. Then, we will deduce the motion vectors of the other tapes. Moreover, many techniques of improvement were integrated in order to optimize our algorithm. The evaluation of our algorithm proved these performances and its effectiveness while arriving at a good quality of estimate as well as an increase in the compression ratio.
<b>Speciality</b>	Dedicated Computer System New Technologies (NTSID) National School of Engineers, University of Sfax (Tunisia)
<b>Advisor</b>	<b>Mr.Chokri BEN AMAR</b> , <i>Assistant Professor, University of Sfax, REGIM Laboratory.</i>

## Publications

### International Book Chapters

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### International Conferences

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### Reports

- 2** **Najib BENAOUN (2008)** *Multiresolution Algorithm for Motion Estimation* (In French). Master memory on Dedicated Computer System New Technologies, National School of Engineers, University of Sfax (Tunisia).
- 1** **Najib BENAOUN (2006)** Cryptography: threats and precautions (In French). Fouryear University Degree Memory on Computer Science, Higher Institute of Applied Sciences and Technology of Sousse, (ISSATS), University of Sousse, Tunisia.

## Research Project

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### Research Stays

- Jun.14-Jul.14 09** Research internship under the supervision of M. *Liming Chen*, 'Progress in my thesis', the computer lab in Image and Information Systems Research (LIRIS), Department of Mathematics and Computer Science, Central School of Lyon ,University of Lyon, France

**Work done** Progress made in thesis: "Development a system for video events detection based on HMM"

**01.Nov- Jan.31 09** Research internship under the supervision of *Liming Chen*, 'Definition and start thesis', the computer lab in Image and Information Systems Research (LIRIS), Department of Mathematics and Computer Science , Central School of Lyon (ECL), University of Lyon, France

**Work done** Defining and starting the thesis

## Scientific Event Attendances

**Nov.7 2009** The IEEE Distinguished Lecturers presented by Professor **Sergios THEODORIDIS** , Jerba, Tunisia

**Nov.5-6 2009** The IEEE Distinguished Lecturers presented by Professor **James C.BEZDEK** , Jerba, Tunisia

**Nov.6 2009** Panel Session about new trends on Computational Intelligences in systems design, Jerba, Tunisia.

**Jul.15-18 2009** 15th Symposium of Research Inter Schools Central for researchers and doctoral students (**CRIEC**), Lyon, France.

## Employment

**Since Sept.09** Contractual Assistant, Department of Computer Technology and Multimedia, Institute of Computer Science and Multimedia of Sfax (ISIMS), University of Sfax, Tunisia.

**Sept.08 - July09** Contractual assistant, Department of Computer Science and Communications The Sfax Faculty of Science, University of Sfax (Tunisia)

**Sept.07 - July08** Researcher student, Department of Computer Science and Communications The Sfax Faculty of Science, University of Sfax (Tunisia)

**Sept.06 - July07** Expert non-academic Contract, Department of Computer Science and Communications. The Sfax Faculty of Science, University of Sfax (Tunisia)

## Pedagogical Activities

### Teaching Experience

Since September 2009, I teach at Institute of Computer Science and Multimedia of Sfax (ISIMS):

<i>Year</i>	<i>Subject</i>	<i>Charge</i>	<i>Section</i>
<b>2009-&gt;2010</b>	C Programming Language	Tutorials	PLA-TMSI
<b>2009-&gt;2010</b>	Workshop on Operating Systems	Practices	PLA-TIM
<b>2009-&gt;2010</b>	Preparation for C2i	Practices	PLA-TIM, PLA-TMW

Since September 2006, I teach at the Sfax Faculty of Science:

<i>Year</i>	<i>Subject</i>	<i>Charge</i>	<i>Section</i>
2008->2009	C Programming Language	Lecture, Lect.Pract	SP3
2008->2009	General computer science	Lecture	SV3
2008->2009	General computer science	Lect.Pract	SVT4
2008->2009	Java Object-oriented Programming Language	Tutorials	I3
2008->2009	Designing by UML	Tutorials	I3
2007->2008	C Programming Language	Practices, Tutorials	LFMF1, CI3, SVT3
2006->2007	C Programming Language	Practices	STIC1, TII1
2006->2007	Data Base	Practices	GEA3-AMEN
2006->2007	Data Base	Practices	TCI3
2006->2007	General computer science	Practices	TMEI2

### **Pedagogical Training**

**April 2007** Pedagogical Training Course (CFP, in French), ENIS, Sfax, Tunisia

**May 18-19 2007** Spring Course on Pedagogy (UPP, in French), ENIS, Sfax, Tunisia

**During 2008-2009** Pedagogical Training Course for teacher organized by the University of Sfax, Tunisia

### **Activities Frame**

#### **Graduation Projects at the FSS during 2008-2009**

##### **➤ To obtain a mastery in computer sciences**

**2** **Title:** Development of a computer system at the head of the recovery service at SONEDE.

Students: Barhoumi Samia & Dhaoui Noura & Thabet Ines

**1** **Title:** Management System Center store clothing sector Mohamed Ali in Sfax. Coaching contact: Mr. Nizar Ben Hmad (Expert at the FSS and Project Leader at the center of clothing Mohamed Ali).

##### **➤ To obtain a higher technician diploma in computer sciences and communication**

**1** **Title:** Development of system management office about the Faculty of Sciences of Sfax.

Students: Jammali Bilel & Saoudi Boudour.

### **Continuous Training**

**January 2010** English for academic purposes - Reading Research Articles, ENIS, Sfax

**March 2009** English for academic purposes - Speaking in academic settings, ENIS, Sfax

**February 2008** English for academic purposes - Languages used in academic settings, ENIS, Sfax

**Mar.21-25 2008** Spring School on "Practice of free software" (in French), EPL2, Gammarth, Tunisia

**Dec.26-29, 2007** Winter School on "A document preparation system: LaTeX" (in French), ECO-LATEX, Monastir, Tunisia

### **Associative Activities**

**IEEE SPS ENIS STUDENT Branch**, Treasurer, 2010

### **Memberships**

**Since Dec.08** Graduate Student Member of Institute of Electric and Electronic Engineering (IEEE) and a member in the IEEE Signal Processing Society (SPS).

**Since Sep.07** Member of Research Group on Intelligent Machines (REGIM).

### **Organizing Activities**

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