Dr. Mathieu Barnachon

Curriculum Vitae

Computer Vision & Machine Learning Research Engineer

Education

2013	**Ph.D. in Computer Science**, *The University of Lyon*, France.
	Real time action recognition from examplars
2008	**M.Sc. in Computer Science**, *The University of Lyon*, France.
	Image and Video Analysis
2006	**Bachelor in Computer Science**, *The University of Lyon*, France.

Ph.D. Thesis

Title	*Real time action recognition from examplars*
Supervisors	Professor Saïda Bouakaz & Associate Professor Erwan Guillou
Description	This thesis presents a novel approach for human action recognition from examples. Dealing with widly available Motion Capture data (Kinect-like), I present a light training process, yet achieving high recognition score on many usual actions.

Master Thesis

Title	*Human body reconstruction from geometrical and photometrical constraints*
Supervisor	Associate Professor Erwan Guillou
Description	This master thesis presents a reconstruction of the shape of a body, using a Motion Capture approach built on top of the Shape From Silhouette algorithm.

Publications

2 journals	*Pattern Recognition – Pattern Recognition Letters*
4 conferences	ICPR'12 – ICCBR'12 – ICCBR'11 – ICIG'09
4 French conferences	CORESA'12 – RFIA'12 – ORASIS'09 – AFIG'08

Experience

Companies

2016–Present **Software Engineer**, STYLESHOOTS B.V, Haarlem.
Developed on video and image processing for the fashion industry, to enhance and extends the StyleShoots processes. I'm developing new algorithms and methods on Computer Science, including classical Machine Learning and Deep learning. Our new product, called Live, has been showed at Euroshop'17.
Detailed achievements:
- Video composition and editing pipeline.
- Depth sensor integration and body analysis.
- Video styles engine investigation and development.

2013–2016 **Reseach Engineer**, NCAM TECHNOLOGIES LTD., Paris.
Developed camera tracking algorithms for real time camera tracking to Broadcast and Cinema industries. Integrate new sensors to the current pipeline (depth-sensors)
Detailed achievements:
- Developed a new software for Cinema-quality camera tracking using the real time camera pipeline and compatible with highly used existing Visual Effects pipeline.
- New sensors integration to the Ncam Camera Tracking Bar.
- Design new Graphical Interface to fullfil with existing Broadcaster and Cinema productions.
- Compagny internal and external training to new and existing products.
- Converted the developement team to the agile process (Scrum).

2008–2009 **Research Engineer**, LIRIS LAB., Lyon.
Developed middleware for game engine, especially tools for game editor using Markerless Motion Capture of facial expression and hand poses.

Academic

Summer 2013 **Post Doctoral reasearch stay**, UNIVERSITY OF AUCKLAND, New Zealand.
Worked on high range scene analysis and understanding, with multiple depth sensors: crowd monitoring in an office environment.

Spring 2012 **Doctoral reasearch stay**, UNIVERSITY OF WINDSOR, Canada.
Developed the "one shot learning" for human action recognition.

Skills

Programming Swift, AVFoundation, C++ 11/14, Cuda, OpenCV, Python

Machine Learning algorithms (SVM, Random Tree, kNN, etc.)

Design Pattern, Agile (Scrum), UML, Database

Reviewer Pattern Recognition, IEEE Human-Machine Systems, Machine Vision & Applications, Information Sciences, ICPR, ISIA, RFIA, CORESA

Languages

English Fluent
French Native

Interests

Photography – Hiking – Bird watching – Reading – Touch Rugby player

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