

Diane Larlus

Postdoctoral position candidate

Born on May 31st 1982

French nationality

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Education

- 2005 - 2008 **Ph.D. Computer Science (expected)**, LEAR Group, INRIA Grenoble, France.
- 2005 **M.S. Image, Vision and Robotic**, with honors, UJF/INPG, Grenoble, France.
- 2002 **B.S. Computer Science**, UJF, Grenoble, France.
- 2002 **B.S. Mathematics**, with honors, UJF, Grenoble, France.

Research experience

- Ph.D. project** *Creating and using visual codebooks for object recognition*
 - supervisor Frédéric Jurie
 - description Our object recognition models use local image cues which are combined using visual codebooks into the bag-of-features representation. We investigate efficient ways of building visual codebooks and models to classify object and to segment object categories in images.
- Summer program** *Automatic object model construction and detection in a robotic framework*
 - host laboratory AIST, Tsukuba, Japan
 - description Collaboration with JRL (Joint Japanese-French Robotic Laboratory) on the Treasure Hunting project for the HRP-2 Humanoid platform.
- Master project** *Efficient visual vocabularies for object categorization*
 - description Study and development of new clustering algorithms for building efficient image representation. Project realized in collaboration with Thales optronics.
- First year master** *Graph based segmentation*
 - description Study and extensive comparison of image segmentation algorithms.

Work experience

- Summer 2003 **Dillinger Hüttenwerke**, Dilligen/Saar, Germany,
C software development for the steel factory production line.

Teaching

- Jan-Jun 2008 **Scheme programming**, Bachelors students (L1), laboratory exercises.
- Oct-Dec 2007 **Mathematics for computer science**, Master students (M1-M2), organizing lecture and exercises.
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- Jan-Jun 2006 **Scheme programming**, Bachelors students (L1), laboratory exercises.
- Dec 2005 **Computability theory**, Bachelors students (L3), laboratory exercises.
- Sep-Dec 2005 **MS office tools**, Bachelors students (L1), organizing lecture and exercises.

Languages

French	Native	Spanish	Intermediate
English	Fluent	Japanese	Basis

Computer skills

Programming	C, C++, Python, Java, PHP, Ada, Pascal, Scheme
Tools	UNIX Shell scripts, Matlab/Octave, \LaTeX
Systems	GNU/Linux, Windows

Publications

- [1] Diane Larlus and Frederic Jurie. Latent mixture vocabularies for object categorization and segmentation. *Image and Vision Computing*, accepted, 2008.
- [2] Diane Larlus and Frederic Jurie. Combining appearance models and markov random fields for category level object segmentation. In *IEEE Conference on Computer Vision & Pattern Recognition*, 2008.
- [3] Diane Larlus, Eric Nowak, and Frederic Jurie. Segmentation de catégories d'objets par combinaison d'un modèle d'apparence et d'un champ de markov. In *Reconnaissance des Formes et Intelligence Artificielle*, 2008.
- [4] Hakan Cevikalp, Diane Larlus, and Frederic Jurie. A supervised clustering algorithm for the initialization of rbf neural network classifiers. In *IEEE Signal Processing and Communication Applications Conference*, 2007.
- [5] Diane Larlus and Frederic Jurie. Category level object segmentation. In *International Conference on Computer Vision Theory and Applications*, 2007.
- [6] Hakan Cevikalp, Diane Larlus, Matthijs Douze, and Frederic Jurie. Local subspace classifiers: Linear and nonlinear approaches. In *IEEE Workshop on Machine Learning for Signal Processing*, 2007.
- [7] Olivier Stasse, Diane Larlus, Baptiste Lagarde, Adrien Escande, Francois Saidi, Abderrahmane Kheddar, Kazuhito Yokoi, and Frederic Jurie. Towards autonomous object reconstruction for visual search by the humanoid robot hrp-2. In *IEEE RAS/RSJ Conference on Humanoids Robot*, 2007.
- [8] Diane Larlus, Gyuri Dorkó, and Frederic Jurie. Création de vocabulaires visuels efficaces pour la catégorisation d'images. In *Reconnaissance des Formes et Intelligence Artificielle*, 2006.
- [9] Diane Larlus and Frederic Jurie. Latent mixture vocabularies for object categorization. In *British Machine Vision Conference*, 2006.
- [10] Frank Moosmann, Diane Larlus, and Frederic Jurie. Learning saliency maps for object categorization. In *ECCV International Workshop on The Representation and Use of Prior Knowledge in Vision*. Springer, 2006.
- [11] M. Everingham, A. Zisserman, C. K. I. Williams, L. van Gool, M. Allan, C. M. Bishop, O. Chapelle, N. Dalal, T. Deselaers, G. Dorko, S. Duffner, J. Eichhorn, J. D. R. Farquhar, M. Fritz, C. Garcia, T. Griffiths, F. Jurie, D. Keysers, M. Koskela, J. Laaksonen, D. Larlus, B. Leibe, H. Meng, H. Ney, B. Schiele, C. Schmid, E. Seemann, J. Shawe-Taylor, A. Storkey, S. Szedmak, B. Triggs, I. Ulusoy, V. Viitaniemi, and J. Zhang. The 2005 pascal visual object classes challenge. In *Pascal Challenges Workshop*, number 3944 in Lecture Notes in Artificial Intelligence, pages 117–176, Southampton, UK, 2006.

Invited Talks

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| Apr 29th 2008 | Combining Appearance Models and Markov Random Fields for Category Level Object Segmentation , <i>Multimodal Interactive Systems Group</i> , TU Darmstadt, Germany. |
| Apr 3rd 2008 | Vocabulaires visuels discriminants et Segmentation de catégories d'objets , <i>Institut des Systèmes Intelligents et de Robotique</i> , Paris, France. |
| Feb 8th 2008 | Discriminative visual vocabularies , <i>Université de Bourgogne</i> , Dijon, France. |
| Sept 15th 2006 | Utilisation de modèles à variables latentes pour l'amélioration du vocabulaire visuel dans le cadre de la catégorisation d'objets , <i>Journée GdR-ISIS</i> , Paris, France. |

Scientific interests

Vision	Object categorization for image classification, detection and segmentation tasks
Learning	weakly supervised and unsupervised learning

Extracurricular activities

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| Nov 2007 | Additional teaching activities for science in elementary school |
| 2007 | Demonstrator during the 3-days event in Grenoble, called <i>Place aux Sciences</i> |
| 2006 - 2008 | In charge of LEAR's seminar planning |
| 2005, 2006 | Several days as demonstrator during <i>Fête de la science</i> , on Public visiting INRIA lab |