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EDUCATION

- | | |
|------|---|
| 2005 | Ph.D. in Applied Mathematics
Specialization : Computer Vision
Advisor : Laurent Cohen
CEREMADE, Université Paris Dauphine
Paris, France |
| 2000 | DEA. in Applied Mathematics
Specialization : Image Analysis
Université Paris Dauphine
Paris, France |
| 1997 | B.Sc. in Mathematics
Universidad de Los Andes
Bogota, Colombia |
| 1997 | Minor in Literature
Universidad de Los Andes
Bogota, Colombia |

RESEARCH EXPERIENCE

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|-------------|---|
| 2007 - 2010 | Research Scholar
Computer Vision Group
UC Berkeley |
| 2006 | Postdoctoral Research Fellow
INFOMAGIC Research Project
Pôle de Competitivité Cap Digital
CEREMADE, Université Paris Dauphine
Paris, France |
| 2003 – 2005 | Research Assistant
CEREMADE, Université Paris Dauphine
Paris, France |

TEACHING EXPERIENCE

- 2003 – 2005 Teaching Assistant
Department of mathematics
Université Paris Dauphine
Paris, France
- 1998 – 1999 Teaching Assistant
Department of mathematics
Universidad de Los Andes
Bogota, Colombia

FELLOWSHIPS AND GRANTS

- 2003 – 2005 A.T.E.R. (Teaching and Research Grant)
Université Paris Dauphine
Paris, France
- 2000 – 2003 Allocation de Recherche (Research Grant)
Rectorat de Paris
Ministère de l'Education Nationale
France
- 1991 – 1997 40 Year Anniversary Excellence Scholarship
Universidad de Los Andes
Bogota, Colombia

PUBLICATIONS

Congress Proceedings

- Y. Song, **P. Arbelaez**, P.Hall, C. Li, and A. Balikai. Finding Semantic Structures in Image Hierarchies using Laplacian Graph Energy. ECCV 2010.
- J. Lim, **P. Arbelaez**, C. Gu & J. Malik. *Context by Region Ancestry*. ICCV 2009.
- P. Arbelaez**, M. Maire, C. Fowlkes & J. Malik. *From Contours to Regions: An Empirical Evaluation*. CVPR 2009. Miami, USA.
- C. Gu, J. Lim, **P. Arbelaez** & J. Malik. *Recognition using Regions*. CVPR 2009. Miami, USA.
- P. Arbelaez** & L. Cohen. *Constrained Image Segmentation from Hierarchical Boundaries*. CVPR 2008. June 2008. Anchorage, USA.

M. Maire, **P. Arbelaez**, C. Fowlkes & J. Malik. *Using Contours to Detect and Localize Junctions in Natural Images*. CVPR 2008. June 2008. Anchorage, USA.

P. Arbelaez. *Boundary Extraction in Natural Images Using Ultrametric Contour Maps*. Proceedings 5th IEEE Workshop on Perceptual Organization in Computer Vision (POCV'06). June 2006. New York, USA.

P. Arbelaez & L. Cohen. *Segmentation d'Images Vectorielles par Partitions de Voronoi Généralisées*. Actes 14eme Congres Francophone de Reconnaissance des Formes et Intelligence Artificielle (RFIA'04). January 2004. Toulouse, France.

P. Arbelaez & L. Cohen. *Generalized Voronoi Tessellations for Vector-Valued Image Segmentation*. Proceedings 2nd IEEE Workshop on Variational, Geometric and Level Set Methods in Computer Vision (VLISM'03). September 2003. Nice, France.

P. Arbelaez & L. Cohen. *The Extrema Edges*. Proceedings 4th International Conference on Scale-Space Theories in Computer Vision (Scale-Space'03). pp. 180-195. July 2003. Skye Island, U.K.

P. Arbelaez & L. Cohen. *Path Variation and Image Segmentation*. Proceedings 4th International Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR'03). pp. 246-260. June 2003. Lisboa, Portugal.

P. Arbelaez & L. Cohen. *Partitions d'Energie et Segmentation d'Images*. Actes des Journées Francophones des Jeunes Chercheurs en Vision par Ordinateur (ORASIS'03). pp. 375-384. May 2003. Gérardmer, France.

Journals

P. Arbelaez, M. Maire, C. Fowlkes & J. Malik. *Contours, Regions and Junctions*. To appear in TPAMI 2010.

P. Arbelaez & L. Cohen. *A Metric Approach to Vector-Valued Image Segmentation*. International Journal of Computer Vision. Special Issue on Geometrical, Variational and Level Sets Methods in Computer Vision. Vol. 69. No. 1. pp.119-126. 2006.

P. Arbelaez & L. Cohen. *Segmentation d'Images Couleur par Partitions de Voronoi*. Revue Traitement du Signal. Numero spécial Image Couleur. Vol. 21. No. 5. pp. 407-421. 2004.

P. Arbelaez & L. Cohen. *Energy Partitions and Image Segmentation*. Journal of Mathematical Imaging and Vision. Vol. 20. No. 1-2. pp. 43-57. 2004.

Thesis and Dissertations

P. Arbelaez. *Une approche métrique pour la segmentation d'images.* PhD Dissertation. University Paris XI, Orsay, France. PhD Dissertation CEREMADE, University Paris-Dauphine. Paris, France. November 24 2005.

P. Arbelaez. *La Ligne de Partage des Eaux : Une Approche par Chemins Minimaux Appliquée à la Segmentation Multi-Echelles.* MSc Dissertation. CEREMADE, University Paris-Dauphine. Paris, France. September 2000..

P. Arbelaez. *Existencia de Equilibrio en Mercados Incompletos.* BS Thesis - Mathematics. University de los Andes. Bogotá, Colombia. 1997.. (In spanish)

In preparation

P. Arbelaez, B.G. Han, R.Glaesser & J. Malik. *Automated Particle Detection in electron Microscopy Images.* To be submitted to the Journal of Structural Biology.