

Yannis Kalantidis

Education

- 2009–2014 **Ph.D. in Computer Science**, *School of Electrical and Computer Engineering*, National Technical University of Athens, Greece.
Ph.D. Thesis: Clustering and nearest neighbor methods for visual search
- 2002–2009 **Diploma/M.Eng. in Electrical and Computer Engineering**, *School of Electrical and Computer Engineering*, National Technical University of Athens, Athens, Greece.
Diploma Thesis: Content- and geometry-based image retrieval

Working experience

- Feb 2016 – Present **Research Scientist**, *Facebook*, Menlo Park, CA,
Research and development on video representations, web-scale learning, visual relationship detection, multi-modal learning.
- Jan 2015 – Dec 2016 **Research Scientist**, *Yahoo Labs*, San Francisco, CA, USA.
Research and development on web-scale visual search, distributed backend for approximate nearest neighbor search, image & video representation, multimodal classification, native ad selection, personal media search. Collaborated with Stanford on the Visual Genome project [IJCV, 2016] (<https://visualgenome.org/>).
- 2007–2014 **Image Video and Multimedia Laboratory**, **School of Electrical and Computer Engineering**, **National Technical University of Athens**, *Research and Development in FP7 European Projects*,
2009: Imagination (under ICCS/NTUA)
2009-2011: WEKNOWIT (under CERTH/ITI) .

Internships

- May–July 2010 **Research Intern at Yahoo Research Barcelona**, *supervisor: Roelof Van Zwol, collaborators: Lluís Garcia Pueyo, Michele Trevisiol*, Barcelona, Spain.
- May–August 2012 **Research Intern at Yahoo Research Santa Clara**, *supervisor: Lyndon Kennedy, collaborators: Li-Jia Li, David A. Shamma*, San Francisco & Santa Clara, USA.
- May–August 2014 **Research Intern at Yahoo Labs San Francisco**, *supervisor: David A. Shamma, collaborators: Lyndon Kennedy*, San Francisco, USA.

Scientific Publication, Patent & Citation Records

- Publications Papers published in CVPR, ICCV, ECCV, IJCV, CVIU, ACM MM, ICMR, WSDM, CHI and other.
- Citations Google Scholar citations: 730, h-index: 12, i10-index: 14 (9/18/2017)
- Patents 2 US Patents, 5 US Patents pending & 2 Defensive Publications with Yahoo.

Development projects

- VIRaL Principal developer in the Visual Image Retrieval and Localization tool (On-line demo: <http://viral.image.ntua.gr>).
- LOPQ Principal developer in the open source code for Locally Optimized Product Quantization (Available on Yahoo's github: <https://github.com/yahoo/lopq>).

Crow Principal developer in the open source code for Cross-dimensional feature Weighting for convolutional features (Available on Yahoo's github: <https://github.com/yahoo/crow>).

Research Interests

Approximate nearest neighbor search [LOPQ, CVPR 2014]
Web-scale clustering [AGM, ECCV 2012] [IQ-Means, ICCV 2015]
Aggregated Deep Convolutional Features [Crow, ArXiv 2016]
Deep embeddings for Personal Media Search [WSDM 2017]
Distributed hashing and visual recommendations [LOH, ArXiv 2016]
Visually congruent selection and placement of native advertisements [ICPR 2016]
Geometry indexing [FMH, ACM Multimedia 2010] [FMS, CVIU 2014]
Clothing segmentation, recognition and classification [CsCR, ICMR 2013]
Geo and multiple-view clustering, location recognition [Scene Maps, ACM Multimedia 2010, MTAP 2011]
One-shot visual feature selection [SymCity, ACM Multimedia 2012]
Logo recognition [MSDT, ICMR 2011]
Question answering for personal media search [MemexQA, Arxiv 2017]
Multimodal Classification of Moderated Online Pro-Eating Disorder Content [CHI 2017]

Patents & Defensive Publications

- US Patent **Visual Clothing Retrieval**, *Lyndon Kennedy, Li-Jia Li, Ioannis Kalantidis*, Patent No. 9460518, Pub. Date: 4 October 2016.
- US Patent **Locally optimized feature space encoding of digital data and retrieval using such encoding**, *Lyndon Kennedy, Ioannis Kalantidis, David Shamma*, Patent No. 9659214, Pub. Date: 2017/5/23.
- US Patent Application **Method And System For Selecting Supplemental Content Using Visual Appearance**, *Ioannis Kalantidis, Lyndon Kennedy, Ayman Farahat, Ricardo Baeza-Yates, Simon Osindero and David A. Shamma*, Filed on April 2016.
- US Patent Application **Contextual sharing recommendation of media content**, *Bart Thomee, Andrew Stadlen, Austin Shoemaker, Ioannis Kalantidis, Dan Tasse and David A. Shamma*, Filed on April 2016.
- US Patent Application **Secure content protection within sharable media**, *Bart Thomee, Ioannis Kalantidis, Lyndon Kennedy*, Filed on June 2016.
- Defensive Publication **Scalable Triangulation-based Logo Recognition**, *Yannis Kalantidis, Michele Trevisiol, Lluís Garcia Pueyo and Roelof van Zwol*, Defensive Publication, Docket No.: ID11-7243, Pub. Date: April 29 2011.
- Defensive Publication **Cross-dimensional Weighting for Aggregated Deep Convolutional Features**, *Yannis Kalantidis, Clayton Mellina, Simon Osindero, David A. Shamma and Gerry Pesavento*, Defensive Publication, Docket No.: ID15-11464, Pub. Date: TBD.

Teaching experience

- Fall 2016 **Guest lecturer at CS131 - Computer Vision: Foundations and Applications**, *Computer Science Department*, Stanford University.
- 2009–2014 **Image and Video Analysis, Lab assistant**, *School of Electrical and Computer Engineering*, National Technical University of Athens, Greece.
- 2010–2014 **Programming Techniques, Lab assistant**, *School of Electrical and Computer Engineering*, National Technical University of Athens, Greece.

2009–2010 **Introduction to Programming, Lab assistant**, *School of Electrical and Computer Engineering*, National Technical University of Athens, Greece.

Programming skills

Programming Python, C/C++, Matlab, PIG.
Familiar with Java, HIVE.

Other Caffe, Tensorflow, Hadoop, Spark, OpenCV, L^AT_EX, Pgfplots

Professional Memberships

2009–today **Institute of Electrical and Electronics Engineers**, [IEEE].

2009–today **Technical Chamber of Greece**, [GTC].

Awards & Scholarships

2016 **Best Paper Award**, *NIPS Large-Scale Computer Vision Systems Workshop*.

2015 **Outstanding Reviewer Award**, *International Conference on Computer Vision*.

2013 **Thomaidion Award for Scientific Publication**, *Getting the Look: Clothing Recognition and Segmentation for Automatic Clothing Suggestions in Everyday Photos*, National Technical University of Athens.

2012 **Thomaidion Award for Scientific Publication**, *VIRaL: Visual Image Retrieval and Localization*, National Technical University of Athens.

2011 **Thomaidion Award for Scientific Publication**, *Retrieving landmark and non-landmark images from community photo collections*, National Technical University of Athens.

2005 **Erasmus Scholarship**, *Exchange Studies at Lund Univesity*, Lund, Sweden.

2005 **Erasmus Scholarship**, *Exchange Studies at Lund Univesity*, Lund, Sweden.

Reviewer in journals

2010–today **Multimedia Tools and Applications**, [MTAP], Springer.

2012–today **Signal Processing: Image Communication**, [SPIC], Elsevier.

2014–today **Transactions on Circuits and Systems for Video Technology**, [CSVT], IEEE.

2014–today **Transactions on Multimedia**, [TMM], IEEE.

2015–today **Transactions on Image Processing**, [TIP], IEEE.

2015–today **Transactions on Intelligent Systems and Technology**, [TIST], ACM.

2015–today **Signal Processing Letters**, [SPL], IEEE.

2015–today **Transactions on Knowledge and Data Engineering**, [TKDE], IEEE.

2015–today **The VLDB Journal**, [VLDBJ], Springer.

2016–today **Transactions on Pattern Analysis and Machine Intelligence**, [PAMI], IEEE.

2016–today **Computer Vision and Image Understanding**, [CVIU], Elsevier.

Committee member in conferences & workshops

2016–today **IEEE Conference on Computer Vision and Pattern Recognition**, *Technical Program Committee Member*, [CVPR].

2016–today **IEEE European Conference on Computer Vision**, *Technical Program Committee Member*, [ECCV].

2015–today **IEEE International Conference on Computer Vision**, *Technical Program Committee Member*, [ICCV], (Outstanding Reviewer Award, 2015).

2013–today **ACM Multimedia Conference**, *Technical Program Committee Member*, [ACM-MM].

- 2011 **IEEE Workshop on Content-based Multimedia Indexing**, *Technical Program Committee Member*, [CBMI].
- 2009 **IEEE Workshop on Content-based Multimedia Indexing**, *Local Chair Member*, [CBMI].

Languages

Greek	Native	
English	Fluent	<i>Certificate of Proficiency in English</i>
German	Basic	<i>Zertificat Deutsch als Fremdsprache, Test DaF (grade 3)</i>

Musical Education

- 1993-2001 **Classical Piano Studies**, *International Conservatory of Athens*, Ilioupoli, Athens.
- 1994-1999 **Children Choir Member**, *Dimitris Typaldos Children's Choir*, Moschato, Athens.
- 1993-2001 **Music Theory Degree, Harmony Analysis Studies**, *International Conservatory of Athens*, Ilioupoli, Athens.
- 1999-2001 **Electric Guitar Studies**, *Aeonaon Conservatory*, Ilioupoli, Athens.
- 2003-2005 **Modern/Jazz Piano and Theory Studies**, *Yiorgos Fakanas Art Music School*, Moschato, Athens.
- 2005 **Classic Trumpet Studies**, *Ilioupoli City Philharmonic Orchestra*, Ilioupoli, Athens.
- 2007-2009 **Jazz Piano Studies**, *Private Courses with Giorgos Katsanos*, Nea Makri, Athens.
- 2013 **Introduction to Improvisation**, *Coursera.org online course / Berklee College of Music*, Instructor: Gary Burton, Certificate Obtained.
- 2015 **McCain Improv Workout**, *California Jazz Conservatory / Jazzschool*, Instructor: Seward McCain.

Web Radio Production

- 2014 **Disturbing Music**, *Curator of a web-radio series dedicated to experimental and improvisational music*, IlioupoliOnAir Internet Radio, Season 1, Jan – May 2014 (8 Episodes).

Film Experience

- 2008 **Love is Blind**, *Director, Producer, Screenplay Adaptation, Soundtrack*, A short film based on the novel by Boris Vian (8', black and white) .
Official Selection:
 - 11th International Panorama of Independent Film and Video Creators (Patra, 2009)
 - Athens Fantastic Film Festival 2009 (Ilioupoli, Athens, Greece 2009)Awards:
 - Audience Choice Award (Athens Fantastic Film Festival 2009, Ilioupoli, Athens, Greece)
 - Fantastic Film Audience Choice Award (2010, www.bigbang.gr)
- 2008 **The Experiment**, *Production Assistant, Soundtrack*, Short Film (7', color), directed by Andreas Vakalios, Participated in the 48 hour film festival (Athens, Greece 2008).
- 2009 **The Day The Cup Was Stuck On The Table**, *(co-)Director of Cinematography*, Short Film (6', color), directed by Fili Olsefsi, Official Selection: Naousa International Short Film Festival (NIFF 2012, Naousa, Greece 2012).
- 2014 **Blind Crossing**, *Director, Producer, Screenplay, Soundtrack*, Documentary Feature Film (57', color).
Official Selection:
 - Athens International Film Festival (Athens, Greece, 2015)
 - Chalkida DocFest (Chalikda, Greece, 2015)

Publications

Selected publications

L. Jiang, L. Cao, Y. Kalantidis, S. Farfade and A. Hauptmann. MemexQA: Visual Memex Question Answering. In *arXiv:1708.01336*, 2017.

L. Jiang, Y. Kalantidis, L. Cao, S. Farfade, J. Tang and A. Hauptmann. Delving Deep into Personal Photo and Video Search. In *Web Search and Data Mining (WSDM)*, 2017.

P. Garrigues, S. Farfade, H. Izadinia, K. Boakye and Y. Kalantidis. Tag Prediction at Flickr: a View from the Darkroom. In *Large Scale Computer Vision Systems Workshop, NIPS, 2016, Best Paper Award*.

R. Krishna, Y. Zhu, O. Groth, J. Johnson, K. Hata, J. Kravitz, S. Chen, Y. Kalantidis, L.-J. Li, D.A. Shamma, M. Bernstein and L. Fei-Fei. Visual Genome: Connecting Language and Vision Using Crowdsourced Dense Image Annotations. In *International Journal of Computer Vision (IJCV)*, to appear, 2016.

Y. Kalantidis, C. Mellina and S. Osindero. Cross-dimensional Weighting for Aggregated Deep Convolutional Features. In *Web-scale Vision and Social Media (VSM) Workshop, ECCV, 2016*.

Y. Kalantidis, A. Farahat, L. Kennedy, R. Baeza-Yates and D.A. Shamma. Visual Congruent Ads for Image Search. In *International Conference on Pattern Recognition (ICPR)*, 2016.

Y. Kalantidis, L. Kennedy, H. Nguyen, C. Mellina and D.A. Shamma. LOH and behold: Web-scale visual search, recommendation and clustering using Locally Optimized Hashing. In *Web-scale Vision and Social Media (VSM) Workshop, ECCV, 2016*.

Y. Avrithis, Y. Kalantidis, E. Anagnostopoulos and I. Z. Emiris. Web-scale image clustering revisited. In *International Conference on Computer Vision (oral) (ICCV)*, Santiago, Chile, December 2015.

Y. Kalantidis and Y. Avrithis. Locally Optimized Product Quantization for Approximate Nearest Neighbor Search. In *Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, June 2014.

G. Tolias, Y. Kalantidis, and Y. Avrithis. Towards large-scale geometry indexing by feature selection. *Computer Vision and Image Understanding (CVIU)*, March 2014.

Y. Kalantidis, L. Kennedy and L.-J. Li. Getting the Look: Clothing Recognition and Segmentation for Automatic Clothing Suggestions in Everyday Photos. In *International Conference on Multimedia Retrieval (Oral paper) (ICMR)*, Dallas, TX, April 2013.

Y. Avrithis and Y. Kalantidis. Approximate gaussian mixtures for large scale vocabularies. In *European Conference on Computer Vision (ECCV)*, Florence, Italy, October 2012.

G. Tolias, Y. Kalantidis, and Y. Avrithis. Symcity: Feature selection by symmetry for large scale image retrieval. In *ACM Multimedia (Oral paper) (MM 2012)*, Nara, Japan, October 2012. ACM.

Y. Avrithis, Y. Kalantidis, G. Tolias, and E. Spyrou. Retrieving landmark and non-landmark images from community photo collections. In *ACM Multimedia (Oral paper) (ACM MM 2010)*, Firenze, Italy, October 2010.

Y. Avrithis, G. Tolias, and Y. Kalantidis. Feature map hashing: Sub-linear indexing of appearance and global geometry. In *ACM Multimedia (Oral paper) (ACM MM 2010)*, Firenze, Italy, October 2010.

Y. Kalantidis, L.G. Pueyo, M. Trevisiol, R. van Zwol, and Y. Avrithis. Scalable triangulation-based logo recognition. In *International Conference on Multimedia Retrieval*, Trento, Italy, April 2011.

Y. Kalantidis, G. Toliás, Y. Avrithis, M. Phinikettos, E. Spyrou, P. Mylonas, and S. Kollias. Viral: Visual image retrieval and localization. *Multimedia Tools and Applications (MTAP)*, 2011.

Other publications

L Jiang, LL Cao, Y Kalantidis, S Farfadi, AG Hauptmann Visual Memory QA: Your Personal Photo and Video Search Agent In *AAAI*, demo presentation, 2017.

Y Kalantidis, C Xu, C Mellina Do Silhouettes Dream? Creativity & Cognition, Art Track, 2017.

I. Kollia, Y. Kalantidis, K. Rapantzikos, and A. Stafylopatis. Improving semantic search in digital libraries using multimedia analysis. In *Journal of Multimedia*, vol. 7, no 2, pp. 193-204, 2012.

I. Kollia, Y. Kalantidis, K. Rapantzikos, and S. Kollias. Visual analysis for semantic search in digital libraries. In *Constantinides International Workshop on Signal Processing (CIWSP 2013)*, London, 2013.

E. Spyrou, Y. Kalantidis, G. Toliás, Ph. Mylonas, and S. Kollias. Intelligent content retrieval using a visual vocabulary and geometric constraints. In *FUZZ-IEEE 2010, in conjunction with The 2010 IEEE World Congress on Computational Intelligence (WCCI 2010)*, July 2010.

S. Papadopoulos, C. Zigkolis, G. Toliás, Y. Kalantidis, P. Mylonas, Y. Kompatsiaris, and A. Vakali. Image clustering through community detection on hybrid image similarity graphs. In *International Conference on Image Processing (ICIP 2010)*, Hong Kong, September 2010.

E. Spyrou, Y. Kalantidis, and Ph. Mylonas. Exploiting a region-based visual vocabulary towards efficient concept retrieval. In *in Proceedings of Recognising and tracking events on the Web and in real life, in conjunction with SETN 2010 (EVENTS 2010)*, May 2010.

Y. Kalantidis, E. Spyrou, Ph. Mylonas, and S. Kollias. Using a region and visual word approach towards semantic image retrieval. In *Workshop on Semantic Media Adaptation and Personalization (SMAP 2010)*, Limassol, Cyprus, December 2010.

Y. Kalantidis, G. Toliás, E. Spyrou, Ph. Mylonas, Y. Avrithis, and S. Kollias. Visual image retrieval and localization. In *Greek Electrical and Computer Engineering Student Conference*, Thessaloniki, Greece, April 2009.

Y. Kalantidis, G. Toliás, E. Spyrou, Ph. Mylonas, and Y. Avrithis. Visual image retrieval and localization. In *International Workshop on Content-Based Multimedia Indexing (CBMI 2009)*, Chania, Greece, June 2009.

Y. Kalantidis. Content- and geometry-based image search. *Diploma Thesis (National Technical University of Athens)*, Athens, Greece, February 2009.