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YUSUF AYTAR, PHD

EDUCATION

- 2009 - 2014　　　　DPhil. in Engineering Science,
  Supervisor: **Prof. Andrew Zisserman**
  University of Oxford, Department of Engineering Science, Oxford, UK
  Thesis Topic: *"Transfer Learning for Object Category Detection"*

- 2006 - 2008　　　　MSc. in Computer Science,　　　　　　　　　　GPA : *4.0* / 4.0
  Supervisor: **Prof. Mubarak Shah,**
  University of Central Florida, Department of Computer Science, Orlando, FL, US
  MSc. Thesis Title: *"Semantic Video Retrieval Using High Level Context"*

- 2001 - 2005　　　　B.E. in Computer Engineering (3rd out of 78 graduates),　GPA : *87.65* / 100
  Ege University, Department of Computer Engineering, Izmir, Turkey

PROFESSIONAL EXPERIENCE

- **MIT CSAIL,** October 2014 – Present, Cambridge, MA, US　　　　**Post-Doctoral Research Associate**

  Working on *deep learning* and its applications to *computer vision* problems such as transferring information across deep learning models, learning high level image correspondences, and fast visual category retrieval.

- **University of Oxford,** Jan – Sept. 2014, Oxford, UK　　　　**Post-Doctoral Research Assistant**

  Developed fast object category detection methods which enable immediate (~1 sec) object category search over large scale image collections.

  Contributed to the penguin watch project which is a web-based citizen science project for monitoring penguins in remote regions (http://www.penguinwatch.org)

- **Google, Computer Vision Research ,** May – Sept. 2008, Mountain View, CA, US　　**Research Intern**

  Developed a discriminative machine learning method for large scale concept retrieval and ranking. *(Image Retrieval, Discriminative Machine Learning)*

- **University of Central Florida ,** August 2006 – May 2008, Orlando, FL, US　　**Research Assistant**

  Video Analysis and Content Extraction (VACE) Project,

  Maintained a research project on high-level event representation and retrieval using probabilistic case frames. Developed some novel concept based video representations used for semantic retrieval methods. *(Semantic Video Retrieval, High-level Event Representation, Semantic Word Similarity)*

- **Siemens Corporate Research,** March – August, 2006, Princeton, NJ, US　　**Research Intern**

  Conducted research on merging semantic web technologies and workflow management systems. Implemented a prototype for on-the-fly workflow generation using BPEL processes. Contributed to "Adaptive Medical Workflow Using BPEL Process and Ontological Knowledge Base," WWW2007 Workshops *(Semantic Web, Business Process Management, BPEL, Java)*

- **Cabot Communications,** July, 2005 – January, 2006, Izmir, Turkey　　**R&D Engineer**

  Developed a new embedded DVB-S (Digital Video Broadcast - Satellite) system for satellite receivers. *(Digital Video Broadcast Technologies, Embedded Programming, C Language)*

- **TUBITAK*-BILTEN,** August – September, 2004, Ankara, Turkey　　**Summer Intern**

  Conducted research on Photometric Stereo and 3D reconstruction algorithms. A new hybrid method developed using gaussion surfaces as a combination operator for 3D reconstruction problem. *(Photometric Stereo, 3D Reconstruction, MATLAB, C++)*

  TUBITAK* : National Research & Technical Council of Turkey

TEACHING

- **Postdoctoral Teaching Associate** in 6.819/6.869: Advances in Computer Vision Course, 2015
- Demonstrated the **B14 Information Engineering Laboratory (**2013, 2014), and **P5 Computing laboratory (**2012) at the Department of Engineering Science, University of Oxford

PUBLICATIONS

- **Y. Aytar**, A. Zisserman, "*Part level transfer regularization for enhancing exemplar SVMs*", Journal of Computer Vision and Image Understanding 138, 114-123, 2015
- **Y. Aytar**, A. Zisserman, "*Multi-Task Multi-Sample Learning*", European Conference on Computer Vision Workshops (ECCVW), 2014
- **Y. Aytar**, A. Zisserman, "*Immediate, Scalable Object Category Detection*", IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2014
- **Y. Aytar**, "*Transfer Learning for Object Category Detection*", Dphil. Thesis, University of Oxford, 2013
- **Y. Aytar**, A. Zisserman, "Enhancing Exemplar SVMs using Part Level Transfer Regularization", British Machine Vision Conference (BMVC), 2012
- **Y. Aytar**, A. Zisserman, "*Tabula rasa: Model transfer for object category detection*", IEEE International Conference on Computer Vision (ICCV), 2011
- **Y. Aytar**, "*Semantic Video Retrieval Using High-Level Context*", M.Sc. Thesis, University of Central Florida, Orlando, FL, US, May 2008
- **Y. Aytar**, M. Shah, J. Luo, "*Utilizing Semantic Word Similarity Measures for Video Retrieval*", IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2008
- J. Liu, **Y. Aytar**, B. Orhan, J. Han, and M. Shah , " *Semantic Video Classification and Automatic Search*", TRECVID Workshop, Gaithersburg, MD, US, 2007
- **Y. Aytar**, O. B. Orhan and M. Shah, "*Improving Semantic Concept Detection and Retrieval Using Contextual Estimates*", In Proc. of International Conference on Multimedia & Expo (ICME'07), China

AWARDS & ACHIEVEMENTS

- 2006 – 2008, Awarded **Fulbright Scholarship** for two years during Masters Education in Computer Science Department at the University of Central Florida
- 2001, Won **bronz medal** in the National Olympiads in Informatics organized by National Research & Technical Council of Turkey
- 2000, Ranked **2ⁿᵈ** in Turkey for project titled '*Constructing 3D Models via Stereo Images*' , National Project Competition organized by National Research & Technical Council of Turkey
- 1999, Won **honorable mention** for project titled '*Simulation of Intelligent Robot Population*', National Project Competition organized by National Research & Technical Council of Turkey

LANGUAGES

English: Fluent, Turkish: Native

ACTIVITIES

- Member of **Computer Vision Foundation** and **PASCAL2 Network**
- Maintaining PASCAL Visual Object Challenges Evaluation server (2010-2015) and helping in the organization of annual PASCAL VOC challenges (2010-2012).
- Reviewer for **ECCV'12, CVPR'13, ICCV'13, NIPS'13, ECCV'14, CVPR'15, ICLR'15, ICCV'15, NIPS'15**
- PC member in TASK-CV Transfer Learning Workshops (2014, 2015), and ICDM Practical Transfer Learning Workshop (2015)
- Playing soccer, basketball, volleyball and table tennis as an amateur

COMPUTER SKILLS

- **Programming Languages and Enviroments;** C/C++, MATLAB, OpenCV, Java, PHP, HTML, XML, Java Script, SQL, OpenGL, Python+Django
- *Subjects;* Computer Vision, Machine Learning, Artificial Intelligence, Pattern Recognition, Problem Solving, Object Classification and Detection, Image/Video Retrieval

REFERENCES

Professor **Andrew Zisserman**   University of Oxford   az@robots.ox.ac.uk
Professor **Mubarak A. Shah**   University of Central Florida   shah@eecs.ucf.edu