Mostafa S. Ibrahim

Personal Data

Birth	Cairo, Egypt	1987
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Links	Website	Linkedin	Github	Google Scholar	Quora	Ask	YouTube

Interests

I have a mix of experience in Software Engineering, 2D Computer Vision Research and Algorithms Design. My interest are to apply **Machine Learning** to solve real-world problems.

Skills

Computer Vision Research	7 years: Deep Learning, Action Recognition, Human Activities, Object Detection, Semantic Segmentation, Human/Hand pose estimation, Object Tracking
Software Engineering	6 years: Payment(Java EE), Storage Management (C++), Computer Vision (C++)
Algorithmic Skills	5 years (competitions): ICPC World Finalist 2011, Trainer, Problem Setter, Judge, Chief Judge, Coach
Programming Languages	Python, C++, Java, Matlab
Frameworks	Caffe, Lasnge, TensorFlow, LibSVM, OpenCV, Java EE frameworks

Education

2015-2018	Ph.D. in Computer Science, **Simon Fraser University**, Canada Supervisor Prof Greg Mori - **Computer Vision** Field Worked in Multi-person Activity Understanding GPA: 3.92/4 | My Page
2010-2012	M.Sc. in Computer Science, **Cairo University**, Egypt Supervisor: Prof Amr Badr, **Computer Vision** Field Worked in Image Object Detection: Object Proposals Approach | Paper
2004-2008	Hon. B.Sc. in Computer Science, **Cairo University**, Egypt GPA: 3.83/4 (3rd on class) Graduation Project: Programming Online Judge, *Using Java, JSF Framework* Internship: IBM Egypt, Summer 2007 in Employees Evaluation System

Work Experience

Mar 2019-Present | Computer Vision Researcher at HUAWEI, Canada
Working on interesting computer vision and machine learning R&D challenges.

Nov 2018-Mar 2019 | Lead Computer Vision Scientist at FLEX A.I., Canada
Fitness application: built in a short time a challenging computer vision feature
My Team: Me (lead) and a Machine Learning Engineer
I proposed an innovative problem formulation
I proposed a fast & practical annotations process based on problem formulation
I proposed multi-stage deep training pipeline that worked very well
Designed and implemented the overall processing pipeline to be integrated with the backend team.
Finished stable milestone of the project in short time.

Mar 2018-Oct 2018 | Machine Learning Research Intern at D-WAVE, Canada
Weakly Supervised Image Segmentation Project
Research Project toward CVPR 2019
Keywords: Tensorflow, PASCAL VOC, COCO
SUPERVISOR Arash Vahdat

May 2016-Aug 2016 | Java Software Engineer Intern at GOOGLE, USA
Worked in the **photos team**: investigating a feature for the photos app
Designed, developed and tested the feature internally
My Evaluation was very positive: **very productive and needed minimal supervision**
Google offered another internship without interviewing process
TEAM LEAD Jingyu Cui

Aug 2014-Apr 2016 | C++ Senior Vision Engineer at HERUOLABS, Germany
Worked remotely from Egypt: full time for 5 months, then 40% part time during PhD
Developed **vision modules** in detection, object proposals and tracking
Developed tools to facilitate models training
Developed a gateway to receive vision queries and process them
Research investigations in some private ideas

Jul 2011-Jul 2014 | C++ Software Engineer at NTP, USA
Worked remotely from Egypt in a **data storage management** software named NTP QFS
Team was maintaining Disk Quota Policies to limit user consumption
Customizing the policies to meet the specific needs of your individual users
Managing file data use across: the enterprise, multiple platforms, storage types

Jun 2010-Mar 2011 | Research Assistant at MICROSOFT, Egypt
Computer Vision Field - Semantic Image Segmentation problem
Contribution: Potential values in a discrete energy minimization setup
Supervisor: Prof Dr Motaz El Saban. Programming Languages: C++, Matlab

Nov 2008-May 2010 | Java Software Engineer at FAWRY, Egypt
Team was building a bill presentment and payment network to handle the bills through the various electronic channels available at **banks**; including ATMs, the internet, mobile phones and point of sales.
Technology: Java EE(JSF web, JPA, Web services, JMS)

Research Publications

- **Mostafa S. Ibrahim**, Arash Vahdat. Semi-Supervised Semantic Image Segmentation with Self-correcting Networks, *Toward CVPR 2020*

- **Mostafa S. Ibrahim**, Greg Mori. Hierarchical Relational Networks for Group Activity Recognition and Retrieval, in ECCV 2018. Github

- Jiawei He, Zhiwei Deng, **Mostafa S. Ibrahim**, Greg Mori. Generic Tubelet Proposals for Action Localization, in WACV 2018

- Mehran Khodabandeh, Zhiwei Deng, **Mostafa S. Ibrahim**, Shinichi Satoh, Greg Mori. Active Learning for Structured Prediction from Partially Labeled Data, in arXiv, 2017

- **Mostafa S. Ibrahim**, Srikanth Muralidharan, Zhiwei Deng, Arash Vahdat, Greg Mori. A Hierarchical Deep Temporal Model for Group Activity Recognition, in CVPR 2016. Github

- **Mostafa S. Ibrahim**, Amr A. Badr, Mostafa R. Abdallah and Ibrahim F. Eissa. Bounding Box Object Localization Based On Image Superpixelization, in Procedia CS 2012

- **Mostafa S. Ibrahim** and Motaz A. El Saban. Higher order potentials with superpixel neighbourhood (hsn) for semantic image segmentation, in ICIP 2011

Programming Contests Activity

- Part of SFU ACM ICPC Administration team/WPC in 2017 & 2018.

- Active International Coach with 30+ trainees yearly from several nationalities.

- Judge & Problem Setter in Arabian Regional ACM ICPC 2013.

- Chief Judge in Egyptian & Jordanian National ACM ICPC in 2012.

- 2011 ACM ICPC World Finalist in Orlando, Florida - USA.

- 2nd rank 2009 and 2nd rank 2010 in Arab Collegiate Programming Contest.

- 2nd rank 2006, 5th rank 2008 and 1st rank 2009 in Egyptian National ACM ICPC.

- 8th rank in 2005 Egypt Olympiad in Informatics (EOI), Silver Medal.

- Have a YouTube Channel (250+ videos - 33k subscribers).

- Designed a popular Training sheet for new trainees.

Others

- Teaching Assistant (2008-2014), Cairo University. Courses: Programming, Software Engineering, Data Structures and Algorithms, Neural Network, Genetic Programming.

- Conducted Computer Vision Study Group in Cairo University in 2012-2013 & in SFU 2016.

- Organized Arabic Computer Vision Webinar Series.

- Co-organized Machine Learning Day in Cairo University in 2011.

- Active volunteer on Ask.fm for Helping students (Answered 37K questions).

- Much fun: Gym, Football, Organizing BBQs & social gathering.