



Yoav Liberman

Curriculum Vitae

Experience

- Nov 2015 – Today (Full Time) **Computer Vision & Deep Learning Algorithms Expert and Team Leader, Pixellot Ltd.**, Petah Tikva, Israel.,
Leading 10 algorithm engineers throughout the world, while Developing innovative, real-time deep learning & computer vision algorithms for high resolution (4K) videos that streams different sport events, to automatically detect the center of attention and the flow of play by using unmanned multi-camera system.
Main fields: Deep Neural Networks for Automatic Sport Camera Production and Highlights Events Detection, Real Time Players Detection and Tracking, Saliency Estimation, FG/BG Extraction, Images Registration, Stitching and Feature Tracking.
Tools: C++, Python, Keras, Tensorflow, Caffe, Cuda, OpenCV.
- 2013 – 2015 **Computer Vision And Machine Learning Algorithms Expert, Elbit Systems Ltd.**, Haifa, Israel.,
Developing real-time algorithms for tracking objects in low frame rate videos, detection and recognition of objects using unmanned drones, multiple salient objects detection in high resolution scenes etc.
Main fields: Deep Neural Networks, Object Tracking, VMD, Objects Classification, Features Extraction, ML.
Tools: C++, Python, Keras, OpenCV, Matlab.
- 2011–2013 **Teaching Advisor, Tel-Aviv University**, School Of Electrical Engineering.
Teaching advisor and laboratory guide in: Electronics Analogue Circuits & Image Processing.
- 2010–2011 **Researcher, Ben-Gurion University**, Beer Sheva, Laboratory.
Research on automatic detection of brain waves by combining EEG & MRI on human subjects.

Education

- 2011–2013 **M.Sc. Studies In Electrical Engineering, Tel-Aviv University, GPA – 96/100, Graduated in distinction and with honors.** Studied for a Master of Science degree (with thesis), **Specialized in:** Computer Vision, Signal & Image Processing.
- 2007–2011 **B.Sc. Studies In Bio-Medical Engineering, Ben-Gurion University, GPA – 91/100, Graduated in distinction and with honors.** **Specialized in:** Signal & Image Processing.

Masters Thesis

- Title Optimal Recovery Of Rainfall Maps Using Measurements From Wireless Sensors Network
Supervisor Professor Hagit Messer-Yaron, Tel-Aviv University.
Description The thesis was focused on theoretical and practical implementation of novel algorithms for optimal reconstruction of rain field images & videos, using Wireless Sensors Network.
Main Research Subjects: Computer Vision, Signal & Image Processing, Compressed Sensing, Statistical signal processing, Detection.

Tel Aviv, Israel

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Awards

- 2013 Yitzhak and Chaya Weinstein award for **excellency in signal processing studies**, during M.Sc. studies.
- 2013 **Deans honor for excellent teaching advisor** in the course of Analogue Circuits, during M.Sc. studies.
- 2012 Smolar-Winnikov yearly scholarship prize for **excellent research concerning environmental monitoring**, during M.Sc. studies.
- 2011 **Certificate of excellence** regarding the B.Sc. final project presentation.
- 2010 **Certificate of Excellence** due to high Grades, during B.Sc. studies.
- 2005 **Certificate of honor** due to remarkable achievements, during the military service.

Programming Languages & Tools

- Proficient C++, Python, Matlab, Keras, Tensorflow, Caffe, MatconvNet, OpenCV.
- Advanced Mac & Linux platforms, PSpice, Mathematica, Visio

Publications

Lieberman, Y., & Perry, A. "A Visual Tracking Scheme for Accurate Object Retrieval in Low Frame Rate Videos". International Journal on Artificial Intelligence Tools, 2017. 25.05.

Lieberman, Y., & Perry, A. "Visual Tracking Extensions for Accurate Target Recovery in Low Frame Rate Videos." Advances in Visual Computing. Springer International Publishing, 2015. 128-139.

Lieberman, Y., Samuels, R., Alpert, P., & Messer, H. "New algorithm for integration between wireless microwave sensor network and radar for improved rainfall measurement and mapping." Atmospheric Measurement Techniques Journal, 2014. 3549-3563.

Lieberman, Y. Object tracking extensions for accurate recovery of rainfall maps using microwave sensor network. In Signal Processing Conference (EUSIPCO), 2014 Proceedings of the 22nd European. 1322-1326.

Lieberman, Y., & Messer, H. "Accurate reconstruction of rain field maps from Commercial Microwave Networks using sparse field modeling". In Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on. 6786-6789.

Other Presentations

- 2013 Poster presentation in the: "3 Generation for Statistical Signal Processing Conference", held in Israel, Open University, Rannana.
- 2012 Tutorial presentation at Garmisch, Germany in the: "Yearly conference on rainfall mapping", On: How can 2D Rainfall map be accurately generated from microwave sensor networks ?.

Military Service

- 2002–2005 **IDF, Navy Corps**.
Served as a medic, specialized as sea medic, discharged as a staff sergeant (Samar).