

Or Sharir – CV

Personal Information

Name: Or Sharir

E-Mail: or@sharir.org

Website: <https://sharir.org>

Education

2014-2020 (est.) **PhD in Computer Science** from the Hebrew University of Jerusalem Institute. My focus is Machine Learning, and more specifically, the algorithmic and theoretical foundations of Deep Learning.

Advisor: Prof. Amnon Shashua.

Grade Average: 97.47. Appeared on the Dean's list of 2015.

2009-2013 **B.Sc. in Physics, Mathematics and Computer Science** from the Hebrew University of Jerusalem Institute.

Grade Average: 90.02. Appeared on the Dean's list of 2010 and 2012.

Publications

- Bridging Many-Body Quantum Physics and Deep Learning via Tensor Networks.
Yoav Levine, **Or Sharir**, Nadav Cohen, and Amnon Shashua.
Arxiv preprint, March 2018.
- Benefits of Depth for Long-Term Memory of Recurrent Networks.
Yoav Levine, **Or Sharir**, and Amnon Shashua.
Published at ICLR 2018 (Workshop track).
- Sum-Product-Quotient Networks.
Or Sharir and Amnon Shashua.
Published at AISTAT 2018.
- On the Expressive Power of Overlapping Architectures of Deep Learning.
Or Sharir and Amnon Shashua.
Published at ICLR 2018 (Conference track)
- Tensorial Mixture Models.
Or Sharir, Ronen Tamari, Nadav Cohen, and Amnon Shashua.
Arxiv preprint, October 2016.
- On the Expressive Power of Deep Learning: A Tensor Analysis.
Nadav Cohen, **Or Sharir** and Amnon Shashua.
Published at COLT 2016.
- Deep SimNets.
Nadav Cohen, **Or Sharir** and Amnon Shashua.
Published at CVPR 2016.

Teachings

- **Image Processing** – Teaching Assistant (Fall 2015-2018).
- **Advanced Seminar in Deep Learning** – Teaching Assistant (Fall 2016 – Spring 2018).
- **Computer Vision** – Teaching Assistant (Spring 2015-2016).
- **Algorithms** – Teaching Assistant (Fall 2014).

Professional Experience in Academia

- **Extend Caffe:** Caffe is one of the most popular frameworks for deep learning, which we have used for experiments on the “Deep SimNets” paper. To support our new deep learning architecture, I have introduced new layers to Caffe, as well as support for unsupervised pre-training using GMM and K-Means algorithms. I have also taken special care to optimize the code to run on the GPU by specialized custom CUDA kernels. Source available at <https://github.com/HUJI-Deep/caffe-simnets>. I have recently headed the efforts to migrate our code to the Tensorflow framework. It is currently used internally, but will be open sourced in the near future.
- **BoxOfficeBuster:** Python program to predict box office success of films using metadata gathered from IMDb. Implemented and designed genetic algorithms and decision trees, trained on box office data scraped from boxofficemojo.com together with the freely available IMDb database. Supports a dynamic web UI for viewing the results of the program. See demo: <https://drop.sharir.org/BoxOfficeBuster.mov>

Professional Experience in Industry

2013-2014 **Co-Founder and CTO of Three Tall Guys** (<https://threetallguys.com>). We created Here-a-Story (<https://here-a-story.com>), an iPhone app for sharing stories about places. Developed and designed. I used custom-built UI that I have integrated into MapKit including custom animations. Backend built using Parse/Node.js. Supports user-generated content, location notifications, custom audio-player, and login and sharing through Facebook.

2009-2016 **Independent software developer.** Selected projects:

- **MySongbook:** An iPhone app for viewing and managing chord sheets for songs. Developed and sold by myself with nearly 50k sales.
- **HomeStyler** (<http://homestyler.com/mobile>): An iPhone/iPad/Android app for home decoration design. Contract work for Autodesk. Developed the 3D tool in the heart of the app for designing rooms: custom-made 3D engine on top of OpenGL, made use of accelerometer input for augmented reality, and working with image processing experts to achieve special effects (e.g. paint and wallpaper substitutions) in real pictures taken by the user.

2005-2008 **Army service.** Developed and maintained multiple office administration applications specifically built for the office of the Chief of the Ground Forces.

Technical Skills

Languages Python, C/C++, CUDA, Objective-C, HTML/CSS/JS, Java.

Frameworks Keras, Tensorflow, Caffe, Matlab, iOS SDK, jQuery, Parse/Node.js, OpenGL.