

# Amit Aides

*curriculum vitæ*

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## Education

- 2012–2018 **Ph.D.**, *Technion, Israel Institute of Technology*.  
Research Field:
  - Remote sensing inverse problems.
  - Camera networks.
- 2008–2011 **Master of Science**, *Technion, Israel Institute of Technology*.  
Study Fields:
  - Image and Video processing.
  - Machine Learning.*GPA: 93.4, Final Examination: 92*
- 1991–1996 **Bachelor of Science**, *Technion, Israel Institute of Technology*.  
Study Fields:
  - Computers.
  - Control systems
  - Biological systems and signals.Annual Project:
  - Design of Phase Array antenna controller for the Technion satellite.*GPA: 85.8*

## PhD thesis

title *Lightfield Analysis and Recovery of the Atmosphere*  
supervisors Professor Yoav Y. Schechner

## Master thesis

title *Multiscale Ultrawide Video Extrapolation*  
supervisors Professor Yoav Y. Schechner

## Experience

### Vocational

- 2015–Present **Researcher**, *IBM, Israel*.
  - Deeplearning, Multi-Modal Biometrics.
- 2008–2016 **Teaching Assistant**, *Technion, Israel Institute of Technology*.
  - Team leader and lead developer of the image processing system for the Technion's contender and **2<sup>nd</sup> place winner** for the **AUVSI Student UAS Competition, 2015**.
  - Teaching assistant in charge of the Linux kernel Laboratory.
  - Supervisor of undergraduate projects in the Vision and Image Sciences Laboratory.
  - Teaching assistant for the Microprocessors and Logic Design courses.

- 2007–2010 **Part time SW engineer**, *Sick Sensors Ltd.*
- Design and development of an automatic testing environment for rotary encoders.
  - Design of microcontrollers firmware.
- 2004–2006 **Co-founder**, *DigitalPeers*.
- Co-author of CamTrack, pioneering webcam software.
  - Development of robust real time face tracking algorithm.
  - Development of scriptable graphic engine based on python.
  - Website design.
- 2002–2003 **HW engineer**, *Marvell Israel (M.I.S.I) Ltd.*
- Development of testing environment in C++.
- 2000–2001 **HW engineer**, *ISD Ltd.*
- VHDL design.
- 1994–1996 **Teaching Assistant**, *Technion, Israel Institute of Technology*.
- Instructor in the Energy Conversion Laboratory.
- 1992–1993 **HW engineer**, *IBM Israel Ltd.*
- Support of synthesis tool in the VLSI department.

### Military service

- 1996–2000 **Technical Officer**, *Israeli Navy*.
- Support of underwater systems and their test equipment.
  - In charge of the Electrical Technician school.

### Languages

Hebrew native  
English fluent  
Spanish fluent

### Computer skills

Programming Python, C++, C, Matlab

### Open Source Projects

#### Developer

- **AUVSI-TAS-System** - Payload system developed by the Technion team for the **AUVSI SUAS** 2015-2016 competitions.
- **pycompense** - Python toolbox for compressed sensing and sparse reconstruction algorithms.
- **pyrwt** - Python wrapper for the *RICE* Wavelet Toolbox.
- **pyoslabgrader** - A package for writing automatic tests for the linux kernel course taught in the Technion.
- **pydirect** - Python wrapper for the *DIRECT* global optimization algorithm.
- **cyipopt** - Python wrapper for the *IPOPT* optimization package.
- **pylibni845x** - Python wrapper for the *NI USB-4851* & *SPI* interface.

#### Contributor

- **chainer** - A flexible framework of neural networks for deep learning.
- **scikits-learn** - Easy-to-use and general-purpose machine learning in Python.

## Publications

Amit Aides, Tamar Avraham, and Yoav Y. Schechner. Multiscale ultrawide foveated video extrapolation. In *IEEE International Conference on Computational Photography (ICCP)*, Apr 2011.

Amit Aides, Yoav Y. Schechner, Vadim Holodovsky, Michael J. Garay, and Anthony B. Davis. Multi sky-view 3d aerosol distribution recovery. *Opt. Express*, 21(22):25820–25833, Nov 2013.

Dmitry Veikherman, Amit Aides, Yoav Y. Schechner, and Aviad Levis. Clouds in the cloud. In *The 12th Asian Conference on Computer Vision (ACCV)*, Nov 2014.

Aviad Levis, Yoav Y. Schechner, Amit Aides, and Anthony B Davis. Airborne three-dimensional cloud tomography. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2015.

Aviad Levis, Yoav Y Schechner, Amit Aides, and Anthony B Davis. An efficient approach for optical radiative transfer tomography using the spherical harmonics discrete ordinates method. *arXiv preprint arXiv:1501.06093*, 2015.

Vadim Holodovsky, Yoav Y Schechner, Anat Levin, Aviad Levis, and Amit Aides. In-situ multi-view multi-scattering stochastic tomography. In *IEEE International Conference on Computational Photography (ICCP)*. IEEE, 2016.

Amit Aides and Hagai Aronowitz. Text-dependent audiovisual synchrony detection for spoofing detection in mobile person recognition. In *INTERSPEECH*, Sep 2016.

Ahmad Kiswani, Amit Aides, and Mark Silberstein. Deep learning in aerial systems using jetson. <https://devblogs.nvidia.com/parallelforall/deep-learning-in-aerial-systems-jetson/>, 2016.

Aviad Levis, Amit Aides, Yoav Y. Schechner, Anthony B. Davis, and Vadim Holodovsky. Inverse-scattering bridging micron to kilometer scales. CVPR workshop on Computational Cameras and Displays, 2017.

Amit Aides, David Dov, and Hagai Aronowitz. Robust audiovisual liveness detection for biometric authentication using deep joint embedding and dynamic time warping. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, April in review.