

Zachary (Zak) Murez

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Education

University of California, San Diego, GPA: 3.88
Ph.D., Computer Science and Engineering, June 2018
C.Phil., Computer Science and Engineering, October 2015
M.S., Computer Science and Engineering, June 2015

Yale University, GPA: 3.32
B.S., Computer Science, June 2011
B.S., Intensive Mathematics, June 2011

Experience

Magic Leap, INC.
Senior Software Engineer, Fall 2018-Present
Deep Learning Group, Manager: Andrew Rabinovich

HRL Laboratories, LLC.
Software Engineer Intern, Summer 2017
Information and Systems Sciences Lab, Manager: Kyungnam Kim

Magic Leap, INC.
Software Engineer Intern, Summer 2016
Deep Learning Group, Manager: Andrew Rabinovich

University of California, San Diego
Graduate Student Researcher, 2011-2018
Computer Vision Lab, Advisors: David Kriegman & Ravi Ramamoorthi

- Deep learning
- Photometric stereo with complex BRDFs
- Photometric stereo in a scattering medium
- Particle tracking for Keck microscope (underwater in situ microscope)
- Shape from fluorescence

The Scripps Research Institute
Research Programmer, 2012-2013
Automated Molecular Imaging Group

- Particle alignment for cryo-electron microscopy

Publications

Z. Murez, S. Kolouri, D Kriegman , R. Ramamoorthi, K. Kim “Image to Image Translation for Domain Adaptation”, IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2018.

Z. Li, Z. Murez, D Kriegman, R. Ramamoorthi, M. Chandraker “Learning to See through Turbulent Water”, IEEE Winter Conf. on Applications of Computer Vision (WACV) 2018.

J. Tian, Z. Murez, T. Cui, Z Zhang, D Kriegman , R. Ramamoorthi “Depth and Image

Restoration from Light Field In a Scattering Medium”, *IEEE International Conference on Computer Vision (ICCV) 2017*.

Z. Murez, T. Treibitz, D. Kriegman, R. Ramamoorthi, “Photometric Stereo in a Scattering Medium,” *IEEE Transactions on Pattern Analysis and Machine Intelligence 2016*.

Z. Murez, T. Treibitz, D. Kriegman, R. Ramamoorthi, “Photometric Stereo in a Scattering Medium,” *IEEE International Conference on Computer Vision (ICCV) 2015*.

Veesler, David, et al. "Maximizing the potential of electron cryomicroscopy data collected using direct detectors." *Journal of structural biology* 184.2 (2013): 193-202.

T. Treibitz, Z. Murez, B. G. Mitchell, D. Kriegman, “Shape from Fluorescence,” *European Conference for Computer Vision (ECCV) 2012*.

Invited Talks “Photometric Stereo with Fluorescence and in Scattering Media”, International Workshop on Aqua Vision 2016, Kyoto, Japan.

Skills **Programing Languages:** Python, Matlab, C, C++, Perl, Visual Fox Pro

Deep Learning Frameworks: PyTorch, Tensorflow

Selected Course Work: Computer Vision (CSE 252a,b), Computer Graphics (CSE 272,291), Artificial Intelligence/Machine Learning (CSE 250a,291), Convex Optimization (ECE 273)

Other Software: Premiere Pro, Photoshop, Cinema 4D, Vectorworks

Other **Teaching Assistant:** Biometrics (UCSD CSE 190), Spring 2014
Experience Selected Topics in Vision and Learning (UCSD CSE 252c), Spring 2017
Computer Vision I (UCSD CSE 252a), Fall 2017
Computer Vision II (UCSD CSE 252b), Winter 2018
Selected Topics in Vision and Learning (UCSD CSE 252c), Spring 2018

Building Construction Worker, Main Street Equipment Co., 2006-2010

Production Assistant, “Plug-In America” Public Service Announcements, 2010

Videographer, Yale University Swim Team 2009 & 2010

Mushroom Vendor, Venice Farmers’ Market 2008

Solar Electric System Installer for James Murez, Contractor, 2002-2003

Volunteer Tree Planter & Tractor Operator, TreePeople, Inc., 1992-1995

Website Developer

- California Department of Food and Agriculture, 2009
- Venice Properties Real Estate, 2007-2008
- Robin Murez, Artist, 2006
- Raymond Federman, Professor & Author, 2005
- Billy Al Bengston, Artist, 2004

Academic Honors & Awards Yale University Barge & Runk Math Competition Finalist, 2009
Science Bowl Southern California Regional Finalist, 2006 & 2007
Comp TIA A+ computer certified (8th grade, youngest known) 2003

Athletic Achievements USA Ultimate (Frisbee) College National Championships Qualifier, 2014
Four Time NCAA D1 Letterman, 2007-2011
Ivy League Swim Finalist, 2010
Maccabiah Swim Finalist (Tel Aviv, Israel), 2009
Five Venice High School Swim Records, 2004-2007
USA Swimming Junior National Qualifier, 2005
Pan-Am Maccabi Games: Four Gold Swim Medals (Santiago, Chile), 2003
Tae-Kwon-Do Karate 2nd Degree Black Belt, 2002