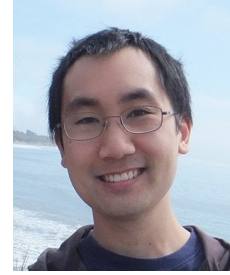


Kevin G. Chan



CONTACT INFORMATION Ph.D. Candidate
Electrical & Computer Engineering
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EDUCATION **University of California, Santa Barbara**, Santa Barbara, CA
Ph.D. Candidate, Electrical and Computer Engineering

- Adviser: Dr. Michael Liebling
- Group: Systems Bioimaging Laboratory
- Area of Study: Signal & Image Processing
- Thesis: Computational imaging methods for improving resolution in biological microscopy

University of California, Santa Barbara, Santa Barbara, CA
M.S., Electrical and Computer Engineering, 2013

Harvey Mudd College, Claremont, CA
B.S., Engineering, 2011

WORK EXPERIENCE **Idiap Research Institute**, Martigny, Switzerland **2015 - 2016**
Computational Imaging Intern

- Designed and assembled a computational imaging system with active illumination for temporal superresolution.
- Investigated the performance of different active illumination codes using computational simulations.
- Developed a video reconstruction algorithm capable of achieving temporal superresolution by a factor of up to $6\times$.

FLIR Systems, Goleta, CA **2015**
Video, Signal Processing, and Algorithms Intern

- Developed image processing simulations for infrared camera systems.
- Implemented single image superresolution for low-cost, low-resolution infrared camera sensors.
- Implemented a spatially-variant, point spread function-aware algorithm for infrared image deblurring.

RESEARCH EXPERIENCE **Systems Bioimaging Laboratory**, UC Santa Barbara **2012-present**
Graduate Student Researcher

- I am currently working on biological image processing algorithms, including temporal superresolution, tomographic reconstruction, and blood flow video analysis.

- I am developing computational imaging methods that combine novel hardware with image processing algorithms for cardiac fluorescence microscopy. I apply these methods to imaging experiments with in vivo microscopy of live transgenic zebrafish.
- I develop bioimage processing tools for ImageJ and Imaris with Java and Matlab.

Computer Science Department, Harvey Mudd College **2010**
Undergraduate Researcher

- I helped develop LogiSketch, an educational software system written in C# for sketching and simulating digital logic circuits on a tablet PC.
- I implemented a decision tree algorithm to increase recognition speed and a context-based refinement algorithm to increase recognition accuracy.
- I implemented on-line learning with a Bayes Classifier to improve recognition robustness and adapt to the user's individual drawing style.

Laboratory of Neuroimaging, UCLA **2009**
Undergraduate Researcher

- I collaborated with a multidisciplinary team to analyze registration of tetrahedral-based volumetric meshes of the brain.
- I implemented various metrics in Matlab for localizing and quantifying changes during registration.
- I applied my analysis methods to MRI data from a study of Alzheimer's Disease from the Alzheimer's Disease Neuroimaging Initiative (ADNI).

TEACHING
EXPERIENCE

UC Santa Barbara, Santa Barbara, CA **2011-2015**
Teaching Assistant

- ECE 2A, 2B, 2C: Circuits, Devices, and Systems
- ECE 15A: Fundamentals of Logic Design
- ECE 178: Digital Image and Video Processing
- ECE 278B: Principles of Biological Microscopy

Research Mentorship Program **2012, 2013**

- I mentored 1-2 high school students for 6 weeks in the summer as they conducted a research project in the Systems Bioimaging Lab.

Condor Techs **2013**

- I mentored 4 students from Oxnard College for 2 weeks in the summer as they conducted a short research project in the Systems Bioimaging Lab.

SKILLS

- Matlab, Java, C#, C, Python
- Microsoft Office, LaTeX, SVN
- ImageJ, Imaris, Adobe Photoshop, Adobe Illustrator

PUBLICATIONS

K. G. Chan, S. Calinon, and M. Liebling, “Temporal superresolution imaging of repeating processes using a single camera and active illumination,” *IEEE Transactions on Computational Imaging*, (submitted).

K. G. Chan, S. J. Streichan, L. A. Trinh, and M. Liebling, “Simultaneous temporal superresolution and denoising for cardiac fluorescence microscopy,” *IEEE Transactions on Computational Imaging*, vol. 2, no. 3, pp. 348–358, 2016.

K. G. Chan and M. Liebling, “A point-spread-function-aware filtered back-projection algorithm for focal-plane-scanning optical projection tomography,” in *IEEE International Symposium on Biomedical Imaging*, 2016.

N. Chacko, **K. G. Chan**, and M. Liebling, “Intensity-based point-spread-function-aware registration for multi-view applications in optical microscopy,” in *IEEE International Symposium on Biomedical Imaging*, 2015.

K. G. Chan and M. Liebling, “Estimation of divergence-free 3D cardiac blood flow in a zebrafish larva using multi-view microscopy,” in *IEEE International Symposium on Biomedical Imaging*, 2015.

K. Chan, L. Trinh, and M. Liebling, “A temporal superresolution method applied to low-light cardiac fluorescence microscopy,” in *Proceedings of the IEEE Asilomar Conference on Signals, Systems and Computers*, 2013.