

Alex N. Walczak

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INTERESTS	Control theory, systems theory, automation, machine learning.			
EDUCATION	University of California, Berkeley (2013-May 2017) B.A. in Computer Science and Applied Mathematics Advisors: Professor Michel Maharbiz, Berkeley EECS Caroline Ajo-Franklin, Lawrence Berkeley National Lab			
COURSES	CS189: Machine Learning CS170: Algorithms EE221A: Linear Systems Theory	CS162: Operating Systems EE123: Digital Signal Processing EE126: Statistics & Probability		
RESEARCH & EXPERIENCE	<i>Computer Vision Research Intern</i> <i>Umbo CV</i>	Taipei, Taiwan Summer 2016		
	I developed a program to do online few-shot learning with an ordinary laptop and webcam. On top of Google’s Inception V3 convnet, I created an additional architecture, which automatically expands as new objects are seen. I also presented current computer vision publications at computer vision group meetings.			
	<i>Undergraduate Researcher</i> <i>UC Berkeley EECS Department and</i> <i>Lawrence Berkeley National Lab</i>	Berkeley, CA Fall 2014-Present		
	I am on a team building a novel biosensor that functions by measuring electrical impedance of <i>E. coli</i> . In the last two years, I have developed an automated segmentation algorithm for analyzing fluorescence traces of <i>E. coli</i> . I also wrote a program to analyze the distribution of bacterial volumes from a 2D image. Finally, using OpenSCAD I designed and 3D printed microfluidic flow cells.			
LANGUAGES & SOFTWARE	Python Torch with Lua	Java git & Agile	C Android UI	iOS (Swift) Mathematica
iOS PROJECTS	For an iOS final project, I developed an app that tracks users’ activity in real time. This app utilizes the iPhone’s sensing capabilities, converting accelerometer, GPS, and gyro data to activity level, distance traveled, and speed. Animated charts visualize results for the day, week, month, or year.			
HONORS	Berkeley CITRIS Invention Lab Fellowship 2016 Huang Scholar: scholarship to study Chinese in Beijing 2015 and hold an internship in Taiwan 2016 Scholarship to study Southeast Asian culture in Singapore (NUS) 2014			
HOBBIES & OTHER	Chinese language, College Ski and Snowboard Club, Native Polish speaker			