Alex N. Walczak

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Interests Control theory, systems theory, robotics, machine learning, computer vision.

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	EE106A: Robotics
EE221A: Linear Systems Theory	EE123: Digital Signal Processing
CS170: Algorithms	EE126: Statistics & Probability

Research and Experience

Computer Vision Research Intern — **Taipei, Taiwan**
Umbo CV — **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.

Undergraduate Researcher — **Berkeley, CA**
UC Berkeley EECS Department and Lawrence Berkeley National Lab — **Fall 2014-Present**

I am on a team building a novel biosensor that functions by measuring electrical impedance of *E. coli*. In the last two years, I have developed an automated segmentation algorithm for analyzing fluorescence traces of *E. coli*. 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	Java	C	iOS (Swift)
Torch with Lua	git	Android UI	Mathematica

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 College Ski and Snowboard Club, Chinese language

Other Native Polish speaker