

# Patrick N. Yu

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2515 Benvenue Ave  
Berkeley, CA 94704  
patrick.n.yu@berkeley.edu  
(714) 651-5438

**EDUCATION**      *Bachelor of Arts, Applied Mathematics*  
University of California, Berkeley  
Expected: May 2015  
Concentration: Computer Science

**COMPUTER SKILLS**      *Languages & Software:* Python, Java, Matlab, Scheme, Latex, R, Ruby, Git  
*Operating Systems:* Windows, Mac, Unix

**MAJOR CLASSES**

• Multivariable Calculus	• Numerical Analysis
• Linear Algebra	• Complex Analysis
• Differential Equations	• Structure of Computer Programs
• Discrete Mathematics	• Data Structures
• Real Analysis	• Efficient Algorithms
• Abstract Algebra	• Probability and Random Processes
• Cryptography	• Computing with Data

**EXPERIENCE**      *Social Coordinator, Treasurer, Head Coordinator*      2013 - 2015  
Project S.M.I.L.E.  
• Board member for Project S.M.I.L.E. and held a variety of positions.  
• Worked closely with the ASUC, LEAD Center, and Public Service Center, handling a variety of aspects of the club.

*Seminar Organizer, Education 97/197*      2013 - 2015  
University of California, Berkeley  
• Organized a seminar which brought in speakers for different topics in education.

**PROJECTS**

Image Recognition

- Designed and implemented machine learning algorithms to identify written numbers in images.

Spam Filter

- Designed and implemented algorithms to create a spam filter for email data.

Image compression

- Implemented singular value decomposition processes to create a percentage based image compression program to decrease the storage size for the image.

Heat Maps

- Executed Crank-Nicolson finite difference method to solve the heat equation and track smells moving across a room.

PageRank

- Designed ranking system using a version of the PageRank algorithm that ranked actors using IMDb ratings through the Beautiful Soup Python package.