# Patrick Yu

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**EDUCATION**

**University of California, Berkeley** *May 2015*

* Bachelors in Applied Mathematics
* Concentration in Computer Science

**SKILLS**

**Languages and Software:** Python, Java, Matlab, Scheme, Latex, R, Ruby, Git

**Operating Systems:** Windows, Mac, Unix

**Major Classes**

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

**ACTIVITIES or LEADERSHIP**

**Social Coordinator, Treasurer, Head Coordinator with Project S.M.I.L.E. 2013 - 2015**

* 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 with University of California, Berkeley 2013-2015**

* Organized a seminar which brought in speakers for different topics in education.

**Projects**

**Image Recognition**

**•** Designed and implemented machine learning algorithms to identity 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.