

# Kyle Yee

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## EDUCATION

<b>Swarthmore College, Swarthmore, PA</b>	Class of 2019
<ul style="list-style-type: none"><li>Candidate for B.A. in Computer Science and Physics, minor in Mathematics <i>Relevant Coursework:</i> Machine Learning, Artificial Intelligence, Complex Analysis, Real Analysis, Modern Algebra, Data Structures and Algorithms (C++), Computer Systems, Multivariate Calculus, Linear Algebra, Analytical Dynamics, Electricity &amp; Magnetism, Quantum Mechanics, Mathematical Methods</li><li><i>Freeman Scholar:</i> Given by the music faculty to students who show unusual promise as instrumentalists or vocalists, providing a complete scholarship for musical instruction</li></ul>	GPA: 3.84/4

## WORK AND RESEARCH EXPERIENCE

<b>REU in Machine Learning, University of Colorado at Colorado Spring</b>	Summer 2017
<ul style="list-style-type: none"><li>Conducting computer vision research under the guidance of Dr. Jonathan Ventura, VAST Lab</li><li>Using convolutional neural networks to localize fluorescent proteins at scales beyond the limits of optical instruments</li><li>Working with Keras and Tensorflow machine learning frameworks</li><li>Independently designing and executing experiments to optimize the machine learning model</li><li>Incorporating novel methods such as subpixel super-resolution convolutional layers to improve results</li><li>Intending to submit for publishing as a first author in Spring 2018</li></ul>	
<b>Physics Research Assistant, Swarthmore College</b>	Summer 2016
<ul style="list-style-type: none"><li>Conducted early-universe cosmology research with Dr. Tristan L. Smith</li><li>Used cosmological models to construct theoretical predictions about the Cosmic Microwave Background power spectrum</li><li>Improved upon the Linear Perturbation Theory to incorporate Compensated Isocurvature Perturbations</li><li>Implemented and modified programs (CAMB and CosmoMC) to test theory against data</li></ul>	
<b>Physics Teaching Assistant, Swarthmore College</b>	Fall 2017 - Present
<ul style="list-style-type: none"><li>Runs help sessions for students currently enrolled in introductory mechanics</li></ul>	

## PROJECTS

<b>Mindful, PennApps XV</b>	January 2017
<ul style="list-style-type: none"><li>Built an iOS keyboard which passively logs keyboard input and sends this data to an accompanying web app</li><li>ImplementedAlchemy API via Node.js to run sentiment analysis on this text and construct aggregate emotion data</li><li>Displayed this information on the web app using chart.js, creating easily readable graphs in real time</li></ul>	
<b>Hacker Vision, Hack Princeton</b>	November 2016
<ul style="list-style-type: none"><li>Won Best VR/AR Hack</li><li>Implemented an AR facial recognition hack which displays user profiles on a camera feed over recognized faces</li><li>Built on a Raspberry Pi with Pi Camera using Microsoft Cognitive Services API</li><li>Incorporated web tool to enter users and information into database</li></ul>	

## SKILLS

Proficiency in Python, C++, Unix environments; Familiarity in HTML, CSS, C, Javascript  
Proficiency in French; Basic Mandarin

## INTERESTS

<b>Cello:</b> Orchestra, Chamber Music, Private Lessons, Music Theory Classes	Fall 2015 – Present
<b>Principal Cello, Swarthmore College Orchestra</b>	12 hours per week
<ul style="list-style-type: none"><li>Leads cello section by cueing entrances, providing fingerings and bowings, and relaying instructions from the conductor</li></ul>	

**Loves** reading science fiction novels, building mechanical keyboards, road biking, and playing Ultimate Frisbee