Seif **Ibrahim**

Freshman Computing Student · University of Santa Barbara · CA
545 Pierce Street, Apt 3101, Albany, CA 94706
(510)612-0049 | seifibrahim10@gmail.com | seifibrahim | seif-ibrahim-71475b163

"A motivated computer scientist and ViM nerd with 5+ years of experience who is obsessed with high performance code/algorithms and enjoys building personal projects and hacks in C/C++."

Education and Training

University of Santa Barbara California — *Santa Barbara, California*
Computer Science BS, College of Creative Studies (CCS) — *2018-2022*
- **Relevant Coursework:** Algorithms and Data Structures in C++, Unix Operating Systems Lab, Mathematics of Computer Science (Discrete Math & Probability), Linear Algebra, Calculus III Multivariable Calculus.
- 1 of 6 freshmen chosen to pursue research and an accelerated Computer Science courseload in College of Creative Studies.

Albany High School — *Albany, California*
High School Diploma — *2014 - 2018*
- **4.44 (Weighted, top decile, SAT: 1530/1600, SAT Math II: 800/800)**
- **AP Tests: AP Computer Science A: 5**, AP CSP: 5, AP AB/BC Calculus: 5, AP Biology: 5, AP Physics Mech: 4, AP Chem: 4, AP French: 5

Python Boot Camp at UC Berkeley — *Berkeley, California*
Python Data Science and Web Development Certificate — *2016*
- Python Boot Camp: A rigorous course in the Python Scripting Language covering website backends(Django), data processing libraries (NumPy, pandas, SciPy, etc.), and Git version control.

PROMYS Research Scholarship (Program in Mathematics for Young Scientists) — *Boston University*
Certificate of Completion (Clay Mathematics Institute) — *2017*
- One of 80 students, national and international selected in 2017 to do research in number theory at Boston University (six-week summer program sponsored by the Clay Institute) under the mentorship of professors and graduate students from universities such as MIT, Harvard, Princeton.

Projects

Linux Fake Webcam — Wrote a multi-thousand line program in C which allows users to impersonate anybody on any webcam chat. The program does this by inputing a video and a corresponding JSON file with timestamps to the actions in the video and transition between them. The UI allows users to smoothly and convincingly control the actions that appear on their webcam. It does this by using linux video libraries and kernel modules to pipe video into the webcam device.

Masterlock Combo Solver — Built a robot which is able to unlock any master combination lock and output its combination by designing a custom breadboard circuit, writing arduino code, 3D printing a frame, and assembling together with motors.

Neural Network Game Bot — Wrote an AI player in Javascript using neural networks and evolutionary learning algorithms. The bot learns by itself how to complete any level of a platformer game (similar to mario) given only the game controls and end destination.

Django Database & Website — Wrote a large database web application in Django used by Albany High School to organize anual freshmen debates.

LISP interpreter in SNAP — Wrote an program and environment in SNAP (visual programming language created by UC Berkeley) in a clever attempt to loophole having to use SNAP for in-class project, and instead using a written language.

Honors & Awards

2016-18	**USA Computing Olympiad (USACO)**, Platinum Division (top 5% nationally)	*California, US*
2017-18	**1st Place Award PiE Robotics Competition at UC Berkeley**, First Place Award and Software/Sensors Award out of 30+ schools. As president of Robotics Club, I have experience training a team in diverse areas of STEM, and leading them to victory. Skilled in wiring and programming arduinos, beaglebones, and reading hardware specs.	*California, US*
2017-18	**Moody Mega Math Challenge**, Top 8% paper award and $1000 Scholarship (two-time winner nationally)	*California, US*
2016-17	**Bay Area Mathletes**, Undefeated Math Team in competition with all Bay Area high schools	*California, US*
2016-17	**The National French Contest (Le Grand Concours)**, Gold Medal (top 5% nationally)	*California, US*

Skills

Programming Languages — C/C++, JAVA, Python, HTML/CSS, Javascript, LaTeX
Solved hundreds of algorithm and security problems on PicoCTF, Project Euler, USACO, Codeforces, Google Foobar, etc.

Software — Git, ViM, Linux, Eclipse, Matlab