Seif **Ibrahim**

Freshman Computing Student · University of Santa Barbara · CA
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"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++. I am looking to utilize and develop my skills at a Computer Science internship."

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.
- **Standardized Tests - SAT: 1530/1600, SAT Math II: 800/800, AP Computer Science A: 5**
- **1 of 6 freshmen** chosen to pursue research and an accelerated Computer Science courseload in College of Creative Studies.

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.

Skills

Programming Languages	C/C++, JAVA, Python, Django, Flask, HTML/CSS, Javascript, LaTeX, SQL Solved hundreds of algorithm and security problems on PicoCTF, Project Euler, USACO, Codeforces, Google Foobar, etc.
Software	Git, ViM, Linux Development, Eclipse, Matlab, Adobe Photoshop and Illustrator, Excel

Projects

Linux Fake Webcam	Wrote a hacky program in C allowing users to impersonate anybody on webcam chat. The program inputs any video file and a corresponding JSON file of timestamps. The GUI allows users to smoothly and convincingly control the actions of a virtual person or thing on their webcam. I achieved this by writing a Linux Kernel Module (using V4l2 API) and a corresponding application (using Libav) to pipe video into a webcam device.
GoGaucho UCSB App	Backend developer for iOS and Android app with 3000+ daily users. In charge of Python/Flask code that scrapes UCSB's class registration website, as well as scraping Shuttle Live Locations for convenient access inside the App.
Masterlock Solver Bot	Built a robot which is able to unlock any master combination lock in seconds and output its combination. I designed a custom breadboard circuit, wrote Arduino code, 3D printed a frame, and assembled together with motors.
Neural Network Game Bot	Developed an AI player in Javascript using neural networks and evolutionary learning algorithms. The bot learns how to complete any level of a platformer game (similar to mario) given only the game controls and end destination.
LISP interpreter in SNAP	Designed an interpreter for LISP on top of SNAP (a visual programming language) in a clever attempt to loophole the requirement of using a visual language for in-class projects, and instead using a written language.

Honors & Awards

2016-18	**USA Computing Olympiad (USACO)**, Platinum Division in Algorithms and Data Competition (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 trained a team in different areas of STEM, and lead them to victory in competition. I gained skills in wiring and programming Arduinos, Beaglebones, and reading hardware specs.	*California, US*
2017-18	**Moody Mega Math Modeling Challenge**, Data Modeling Paper Award and $1000 Scholarship (top 8% 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*