FRANCISCA VASCONCELOS

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EDUCATION

Massachusetts Institute of Technology *Class of 2020*
Intended Major Electrical Engineering and Computer Science (6-2)
Other Interests Physics (8), Brain and Cognitive Sciences [Computational Neuroscience] (9)

Torrey Pines High School *Class of 2016*
GPA Unweighted (9-12) 4.00/4.00 ◇ Weighted (9-12) 4.58/4.00 ◇ Weighted (10-12) 4.79/4.00

San Diego State University Courses
TPHS 11-12th Multivariable Calculus (Math 252) ◇ Linear Algebra (Math 254) ◇ Advanced Topics (Math 241)

PUBLICATIONS

Vasconcelos, F., Vasconcelos, N., Person-following UAVs. In the proceedings of IEEE conf. *Winter Applications of Computer Vision (WACV)*, Lake Placid, NY, March 2016.

MAJOR PROJECTS

Object Recognition Based UAV Control (Person-following UAVs) *July 2014 - May 2016*
Research Project

· Programmed an AR Parrot drone to follow people based on computer vision recognition of a patterned badge
· Presented at 2015 GSDSEF, 2015 CSSF, 2015 ISEF, 2015 C4ISR Symposium, 2016 IEEE WACV, 2016 SCJSHS [awards below]

Shape-Shifting Origami Robotics *Nov 2015 - May 2016*
Science Fair Project

· Designed, 3D-printed, and constructed a robot that can fold into several shapes inspired by principles of origami
· Presented at 2016 GSDSEF, 2016 CSSF, 2016 ISEF [awards below]

Quantum *July - August 2015*
Android App

· Developed an app that explains the Standard Model, with goal of making quantum physics easily accessible and understandable
· Free on Google Play (70,000+ installs), presented to Congressman Scott Peters, on display in US Capitol Building

FruitiPy *June 2016 - July 2016*
FBK WebValley Project

· Created a low-cost spectrometer to measure fruit ripeness (works on berries, basilica leaves, and grapes)
· I worked on machine learning for fruit classification (Random Forests, SVMs, PCA, etc.)

Other Projects

· Maker Portfolio: http://frannycisca7.wixsite.com/portfolio/maker-portfolio
· Youtube Channel: https://www.youtube.com/playlist?list=PLMvxI0upep7M7KAxgvGu-Ia31yXn6aYPE

EXPERIENCE

MIT CSAIL Undergraduate Researcher *Oct 2016 - Present*
Professor Dina Katabi's NET MIT Lab

· Developing an API and "Smart Home" applications for the group's research on wireless location tracking

Fondazion Bruno Kessler WebValley *June 2016 - July 2016*
All-Expense Paid Summer School (3 weeks)

· 1 week of lectures & 2 weeks of work on machine learning for portable spectroscopy fruit ripeness classification

Sidus Solutions *June 2015 - Aug 2015*
Paid Engineering Internship (6 weeks)

· soldering micro-controllers, programming GUIs, CADing on Solidworks, fixing camera systems, testing products, and laser etching

CERN Student Visitor *June 2015 - Aug 2015*
All-Expense Paid Trip to the European Center for Nuclear Research (1 week)

· lectures by CERN engineers, scientists, & mathematicians with visits to experimentation facilities

TECHNICAL STRENGTHS

Languages	Java ◇ C/C++ ◇ Unix/Linux ◇ Visual Basic ◇ HTML ◇ CSS ◇ Swift ◇ XML ◇ Python ◇ Mathematica
Tools	OpenCV ◇ Android SDK ◇ iOS Xcode ◇ LaTeX ◇ 3D Printing ◇ Arduino ◇ RaspberryPi ◇ SolidWorks

EXTRACURRICULARS

STEM	MIT Society of Women Engineers (Freshman Technology Representative)
Sports	MIT Women's Ice Hockey Club ◇ MIT Women's Soccer Club

AWARDS & HONORS

2016	MIT Museum "Girl's Day: The Secret Life of Robots" Invited Speaker ISEF: "Robotics & Intelligent Machines" 2nd Place Grand Award ◇ WebValley Special Award GSDSEF: ISEF Sweepstakes ◇ Intel Excellence in Computer Science ◇ IEEE ◇ SWE ◇ AFCEA ◇ ASME ◇ AMS Professional Engineers in CA Government ◇ SanDisk Scholar ◇ SWE Paula Loring Simon Scholarship SD Society of Women Engineers ViaSat Scholarship ◇ John Pinto Memorial Scholarship ◇ SD AFCEA Scholarship Athena Pinnacle Scholarship ◇ Cabrillo Civics Scholarship ◇ District 52 Congressional App Challenge Winner NSCF Keynote Scholarship Finalist ◇ NCWIT Aspirations San Diego Winner & National Runner-Up SCJSHS 1st Place ◇ Mathematica Student Wolfram Certification ◇ 1 Scholastic Gold Key & 3 Honorable Mentions
2015	ISEF: "Robotics & Intelligent Machines" 4th Place Grand Award ◇ CERN & United Technologies Special Awards GSDSEF: Sweepstakes ◇ MTS 1st Place ◇ Intel Excellence in Computer Science ◇ AFCEA ◇ EAA ◇ NAVY ONR TPHS Science Department Award ◇ TPHS Art Department Award ◇ National AP Scholar 2 Scholastic Silver Keys & 2 Honorable Mentions ◇ National Merit Scholar Finalist ◇ UCSD COSMOS Panelist
13-14	CA Senate Award ◇ NHS & NAHS Inductee ◇ Trained with Portuguese WU17 National Soccer Team