

# MANAV SINGH

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## EDUCATION

DEGREE	<b>Master's (M.S.) Physics</b>
INSTITUTION	San Francisco State University, January 2016
DEGREE	<b>Bachelor's (B.S.) Physics</b>
INSTITUTION	University of California San Diego, March 2013

## NOTABLE PROJECTS

<b>Rocket Propulsion System Design</b> Personal Project, March 2016 - Present
<ul style="list-style-type: none"><li>Designed Rocket Nozzle, Combustion Chamber, and Propellant Injector</li><li>Tested and optimized components with <b>Inventor Pro (CAD)</b> and <b>Ansys Fluent (FEA/CFD)</b></li><li>Gained valuable experience with <b>Propulsion System Design</b> and integration</li></ul>
<b>Plasma Accretion Around A Magnetized Neutron Star</b> Master's Thesis, SFSU, July 2014 - December 2015
<ul style="list-style-type: none"><li>Modeled magnetohydrodynamic interaction of plasma accreting onto a magnetized neutron star</li><li>Used <b>Finite Difference Methods</b> to computationally solve problem</li><li>Analyzed properties and behavior of shock waves generated by the system</li></ul>
<b>N-Body Gravity Simulator</b> Personal Project, April 2014 - May 2014
<ul style="list-style-type: none"><li>Modeled motion of celestial bodies influenced by gravitational force with personal <b>Python</b> code</li><li>Verified validity of code with NASA data of our solar system</li><li>Studied behavior and stability of novel systems</li></ul>
<b>Maglev Train</b> Senior Project, UCSD, January 2012 - April 2012
<ul style="list-style-type: none"><li>Computationally modeled custom electromagnet Design in Mathematica</li><li>Devised efficient, low budget, electromagnet build process</li><li>Coded dynamic algorithm in <b>C</b> for Embedded System to move train along track using sensor data</li></ul>

## WORK EXPERIENCE

PERIOD	August 2014 — May 2015	
EMPLOYER	SFSU Physics Department	San Francisco, California
JOB TITLE	Graduate Teaching Assistant	
	<ul style="list-style-type: none"><li>Guided students through practical experiments to help with understanding of concepts</li><li>Graded lab reports and managed detailed grade sheets</li><li>Analyzed student performance metrics to optimize teaching methods</li></ul>	

## TECHNICAL SKILLS

<b>Coding Languages</b>	Python, Java, C, C++, Fortran
<b>Software &amp; Tools</b>	Windows, Mac OS, Linux Proficient: Mathematica, MATLAB, $\text{\LaTeX}$ Basic: Inventor, Nastran, Simulation CFD, Ansys Fluent
<b>Concepts</b>	Proficient: Fluid Dynamics, Flight Mechanics, Electrodynamics Basic: Orbital Mechanics, Thermodynamics, Rocket Propulsion Systems
<b>Math Techniques</b>	Proficient: Numerical Analysis, Grid Methods Basic: Finite Element Analysis, CFD Techniques