Manav Singh

✉ msingh91@gmail.com ☎ (209) 627-5358
https://www.linkedin.com/in/manavsingh0
https://github.com/ManavSingh

Education

Degree	**Master's (M.S.) Physics**
Institution	San Francisco State University, January 2016
Degree	**Bachelor's (B.S.) Physics**
Institution	University of California San Diego, March 2013

Notable Projects

Rocket Propulsion System Design
Personal Project, March 2016 - Present

- Designed Rocket Nozzle, Combustion Chamber, and Propellant Injector
- Tested and optimized components with **Inventor Pro** (**CAD**) and **Ansys Fluent** (**FEA/CFD**)
- Gained valuable experience with **Propulsion System Design** and integration

Plasma Accretion Around A Magnetized Neutron Star
Master's Thesis, SFSU, July 2014 - December 2015

- Modeled magnetohydrodynamic interaction of plasma accreting onto a magnetized neutron star
- Used **Finite Difference Methods** to computationally solve problem
- Analyzed properties and behavior of shock waves generated by the system

N-Body Gravity Simulator
Personal Project, April 2014 - May 2014

- Modeled motion of celestial bodies influenced by gravitational force with personal **Python** code
- Verified validity of code with NASA data of our solar system
- Studied behavior and stability of novel systems

Maglev Train
Senior Project, UCSD, January 2012 - April 2012

- Computationally modeled custom electromagnet Design in Mathematica
- Devised efficient, low budget, electromagnet build process
- Coded dynamic algorithm in **C** for Embedded System to move train along track using sensor data

Work Experience

Period	August 2014 — May 2015	
Employer	SFSU Physics Department	San Francisco, California
Job Title	Graduate Teaching Assistant	

- Guided students through practical experiments to help with understanding of concepts
- Graded lab reports and managed detailed grade sheets
- Analyzed student performance metrics to optimize teaching methods

Technical Skills

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