

Akshay Deodhar

47/3, Sankalp Sociey
Paud Road, Pune 411038

+91 7057018422
akshayrdeodhar@gmail.com
github.com/Bri9k

Education

- **College of Engineering, Pune** Pune
Computer Engineering, CGPA 9.68 August 2017 - Present
- **Fergusson College** Pune
HSC, 92.4% 2015 - 2017
- **BVB's Paranjape Vidya Mandir** Pune
SSC, 95.2% 2005 - 2015

Work Experience

- **COEP Satellite Team** Pune
Attitude Determination and Control Subsystem November 2017 - Present
 - Writing and mantaining code for simulating motion of satellite
 - Integrated the publically available code for NRLMSISE-90 atmospheric model into simulation
 - Created a continuous-thrust orbit simulation using NASA's General Mission Analysis Tool and it's Python interface
 - Wrote custom python code for finding an optimum sail normal vector for solar sailing satellite, calculate forces acting on satellite for that orientation.
 - This code is called from the GMAT script to determine external force

Selected Projects

- **Trillian- a command-line chess game**
 - *Data Structures and Algorithms project*
 - Compatible with Forsyth-Edwards format
 - Move validation and legal move generation
 - Minmax with alpha-beta pruning used for game tree search
 - Reasonably competent engine, beats novices
- **RankRecommend- a rooted-pagerank based web app for github follow recommendations**
 - *Principals of programming languages project*
 - Flask server accepts github username or graph text file with root node
 - Requests and BeautifulSoup used for scraping github to build user neighbourhood graph
 - Graph represented in NetworkX. Numpy used to solve for the rooted pagerank *eigenvector*
 - Users sorted on the basis of eigenvector entries, top follow recommendations displayed by server
- **Fractals, Automata and more**
 - *Exploring Python*
 - Generalised module for creating fractals using L-systems
 - Module for observing Cellular Automata using pygame
 - Simple games, models in pygame

Publications

- **Attitude Control Using 3 Axis Magnetorquers and Pitch Axis Reaction Wheel for Solar Sailing Satellite COEPSAT-2**
69th International Astronautics Congress (IAC) Bremen, Germany.
Co-authored with 6 others

Skills

- **Programming**
 - Proficient: C, Python
 - Familiar: Scheme, x86 Assembly, Bash, C++
- **Tools**
 - Unix utilities, Git, L^AT_EX, Gnuplot, Make, Vim, Markdown
- **Languages**
 - English, Marathi, Hindi

Extra-Curricular Activities

- **Chess team**
School, Fergusson, COEP
- **Abhiyanta**
COEP's magazine club
- **Personal blog**
Bri9k.github.io

Hobbies

Love reading fantasy, science fiction, and farce. Enthusiastic about trekking. Listen to (and attempt to play on harmonium) all kinds of music. Write a bit of limerick. Currently learning rowing.