Shreyas Bapat

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Education

IIT Mandi(Indian Institute of Technology Mandi)   *Mandi, India*
B.Tech. in Electrical Engineering   *Aug. 2016 - PRESENT*
- CGPA : 7.51/10
- Got an award for valuable contribution in Technical Society at IIT Mandi (SnTC).

Skills

Programming	Python, C/C++, shell, NASM, Erlang, JavaScript, Dart(Flutter), MySQL
Web	Flask, Dash, HTML5, ,CSS3, Materialize, JavaScript, Django
Markup	LaTeX, Markdown, ReStructured Text, YAML
Technologies	git, mercurial, PyCharm, plotly, matplotlib, Tensorflow, Keras, numba JIT

Publications

Projecthiko 1.O - The Voice and Internet Enabled Smart Home   *IJETSR- ISSN 2394 3386*
Author   *Volume 4, Issue 6 | June 2017*
- Deviced a very cheap and efficient way of making a home smart.
- Used Flask and HTML to create a web interface for handling the resources in home.
- Implemeted the Google Speech API to access the voice inputs of the user.

Experience

Poliastro - OpenAstronomy   *Barcelona, Spain*
Software Development Intern   *May 2018 - Ongoing*
- Worked for the 0.10 release of poliastro.
- Restructured the whole plotting module and created two different backends for plotting. One using plotly and the other using matplotlib.
- Created a class for 2D plotting using plotly. This created interactive 2D plotting for orbits.

Indian Institute of Technology Mandi   *Mandi, India*
Teaching Assistant   *Feb. 2018 - Jun. 2018*
- Helped students understand complex Data Structures and Algorithms.
- Cleared their doubts for DS implementations in C

Projects

Intelligent Fabric Detection and Classification   *IIT Mandi*
Undergraduate Research   *Dec. 2017 - Feb. 2018*
- Implemented a Deep Learning Model to identify the fabric and classify it into different classes.
- Implemeted it using a Encoder with a CNN classifier, Siamese network for matching. The classification accuracy was 97 % on the test data
- Can be implemented in major online fabric stores to facilitate the process of picking a fabric without looking at it.
- Made Open Source: https://github.com/shreyasbapat/Fabric-Detection .

Poliastro   *India*
Open Source Software Developer   *Nov. 2017 - PRESENT*
- Developed a new plotting class for the plotting module based on plotly. Improved the CI Integrations and developed various methods of plotting trajectories in plotting module.
- Had almost 40% contributions in the latest major release of poliastro (0.9.0)
- Release Notes v0.9.0: http://docs.poliastro.space/en/v0.9.0/changelog.htmlpoliastro-0-9-0-2018-04-25
- Project Link: https://github.com/poliastro/poliastro

Ayushman Bhava *Design Practicum, IIT Mandi*
<small>Lead Developer</small> *4th Semester - IC201P*
- Created a super smart medical vending machine with video conferencing with doctor, Payment gateway enabled for online payment.
- Used a Covolutional Neural Network for detecting the cash.
- Used Flask, Tensorflow-Keras, AJAX, HTML, CSS and JS
- Project Link: https://github.com/shreyasbapat/AyushmanBhavaGUI

Exoplanet Detection *IIT Mandi*
<small>Developer</small> *Oct. 2017 - Jan. 2018*
- Created a Machine Learning based prediction model which predicted the presense of Exoplanets on a star by the brightness data of that star over a long period of time.
- Used DFT and Dynamic Time Warping to make the data more readable.
- Project Link: https://github.com/STAC-IITMandi/Exoplanet-Detection

Orbital Simulator *IIT Mandi*
<small>Developer</small> *Oct. 2017 - Jan. 2018*
- Developed a simulator which computed the minimum distance of 500 different asteroids with the planet Mars for the next 5 years.
- This was used to predict the collision of asteroids with Mars.
- Used pyephem, astropy, openpyxl for the problem.
- Project Link: https://github.com/shreyasbapat/Orbital-Simulator

Positions of Responsibilities

STAC (Space Technology and Astronomy Cell) *IIT Mandi*
<small>Co-ordinator</small> *Jun. 2017 - Jul. 2018*
- Organised Various sessions on Astronomy and AstroPhysics in IIT Mandi.
- Organised an ICTS Einstein Lecture at IIT Mandi.
- Held several positional astronomy hackathons.

Honors & Awards

2018	**5th Place**, Orbital Simulator - Inter IIT Tech Meet 2018	*IIT Madras, India*
2017	**1st Place**, Exploring the Interstellar - Technex IIT-BHU 2017	*Varanasi, India*
2017	**4th Place**, Eyes on the Sky - Inter IIT Tech Meet 2017	*IIT Kanpur, India*
2013	**2nd Place**, State Level Aryabhat Astronomy Quiz 2013	*Bhopal, India*
2012	**5th Place**, State Level Aryabhat Astronomy Quiz 2012	*Bhopal, India*

Presentation

Astronomy Code Camp - Nehru Planetarium, Delhi *New Delhi, India*
<small>Mentor and Presenter</small> *Jun. 2018*
- Introduction to various scientific computing packages such as poliastro, astropy, pyephem to the participants.

6th International Conference on Engineering Technology, Science and Management Innovation (ICETSMI-2017) *IETE, Delhi, India*
<small>Presenter</small> *Jun. 2017*
- Presented the paper titled, "ProjectHiko1.O - The Voice and Internet Enabled Smart Home"

References

1. **Prof. Aditya Nigam**, Asst. Professor, SCEE, IIT Mandi *India*
2. **Prof. Arnav Bhavsar**, Asst. Professor, SCEE, IIT Mandi *India*
3. **Juan Luis Cano Rodríguez**, Adj. Professor, IE University, Madrid *Spain*