Silu Panda | Curriculum Vitae

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Undergraduate Computer Science engineer completing the pre-final year of B.Tech. degree at IIT Bombay. Passionate about Machine Leaning Algorithms, Deep leaning and Logic.

Internship Experiences

- **Edelweiss Financial Services** — **Mumbai**
  Data Science intern — *May 2018–July 2018*
  - I was responsible for creating web APIs on REST framework and designing and implementing predictive models for Volume Weighted average Price data for everyday transactions.
  - It included extensive data cleaning and studying and implementing various research papers on ARIMA, GARCH and Neural Networks both on R and Python environments.
- **The Right Doctors** — **Hyderabad**
  Software Engineering intern — *November 2016–December 2016*
  - I worked on an Android Application names TheRightDoctors App. I was responsible for revamping the user experience and adding new features and splash screen.
  - All the code was reviewed and the App was deployed on Google Play Store.

Education

Academic Qualifications

- **Indian Institute of technology, Bombay** — **Mumbai**
  Computer Science and Engineering, GPA: 6 — *2020*
- **Jawahar Navodaya Vidyalaya, Bundi** — **Bundi, Rajasthan**
  Science (PCM), 93.2 Percent — *2015*
- **Jawahar Navodaya Vidyalaya, Bagudi** — **Chorley**
  Science, GPA : 10 — *2013*

Open Source Contributions

- Added a pull request in aima-python project, solving few open issues and bugs.
- Closed various issues by giving solutions and clarifications.
- Added a pull request in mozilla-bugbug, solving a dependency and version issue.
- Added issues on various other projects like, insti app IITB, Webogram etc.

Key Projects

- **Predicting suitable answer to a question (Part of Microsoft AI challenge 2018)** *Deep Learning*
  - When we search for something on a search engine, let's say, "what is the capital of India?", we get an answer on the top website links as "Delhi".
  - The goal was to implement the same for Microsoft's Bing search Engine. The dataset consisted of questions and their possible answers. The task was to predict the most suitable answer to the question.
  - This involved extensive preprocessing like, lemmatization, stop word removal, word tagging and a multilayer CNN model for prediction.
  - I was among the top 250 teams to move to the final round with a leaderboard rank of 114(+-2).
- **Implementation of K-means clustering** *Machine Leaning*
  - Implemented required libraries for k-means clustering and, analysed performance of various initialization methods
  - Applied the libraries for image compression and decompression from pgm format files.
- **Implementation of Neural Network:** *Machine Learning*
  - Implemented feed forward and backpropagation for fully connected, convolutional and average pooling layers
  - Used the implemented modules to make a classification model for handwritten digits.
- **Implementation of perceptron classifier:** *Machine Learning*
  - Implemented 1v1 and 1vr perceptron classifiers for multidimensional data
  - Used them to classify geometric shapes with accuracy score over 98 percent.
- **Implementation of MDP:** *Reinforcement Learning*
  - Implemented Value Iteration module for Markov decision Process.
  - Used the module to design a smart leaning agent to play Maze game, which finds a escaping path in a maze.
- **Academic Feedback App:** *Web Application*
  - Made a web app for taking and giving academic/course feedback.
  - It has all basic features including search, sort, filter and separate instructor and student login and interfaces.
  - It used Java servlets for the backend, postgresql for data bases and HTML, CSS and JS for front end
- **Lyrics Library:** *Web Application*
  - Designed a web app for storing and organizing songs lyrics.
  - It has all basic features including seach by name, sort by date, filter, user login/signup, user upload and user comments.
  - Additionally, added support for lyrics in Indian Local Languages with the help of Centre for Indian Language Technology, IIT Bombay.
- **CrypDonor:** *Blockchain*
  - Designed a decentralized app for taking and giving donations in crypto currencies.
  - It used HTML, CSS, Web3 node JS for the web app and solidity for smart contracts.
  - It was made on the top of Ethereum Network.

Technical and Personal skills

- **Programming Languages:** Proficient in: C, C++, Python, Java, TeX
  Also basic ability with: Assembly VHDL.
- **Industry Software Skills:** SolidWorks (Advanced), Matlab (Advanced), Linux, Most MS Office products

including MS project and MS access (Advanced).

- **General Business Skills:** Good presentation skills, Works well in a team.
- **Other:** Good soldering and spot welding skills, Can write well organised and structured reports.

Relevant Course Work

- **Theory and Mathematics** Linear Algebra and differential calculus, Discrete Structures, Data Structures and Algorithms, Design and Analysis of Algorithms, Logic and Automata Theory, Numerical Analysis, Calculus
- **Computer Science** Computer Programming and Utilization, Abstractions and Paradigms for Programming, Computer Networks, Digital Logic Design, Software Systems, Computer Architecture, Operating Systems, Database and Information Systems, Artificial Intelligence and Machine Learning, Implementation of Programming Languages

Interests and extra-curricular activity

- I am the current Web Manager for Insight, IIT Bombay. My responsibilities include, Adding new posts, Maintaining the site, adding new UI and back-end features, entertaining user bugs and feedback. I lead a team of 4 under the Web Team.
- I was an organizing member of Mood Indigo and Techfest, IIT Bombay, which are Asia's largest cultural and tech college festivals.
- Participated in codeitsuisse, which was a Machine Learning contest by Credit Suisse. I was among the top 5 percent of the leaderboard.
- I am also an avid reader and music lover, my favorites being , Hans Zimmer's scores. Other interest include Piano and Tabla, which I am learning.