Siddhant Bansal

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EDUCATION

Vishwakarma Government Engineering College, Ahmedabad, India   **2015 - Present**
Pursuing Bachelor of Engineering in Electronics and Communication (CPI: 8.09/10)

WORK EXPERIENCE

IIT Gandhinagar   **March 2019 - Present**
- Working as a research intern on the project titled "Cultural Heritage Preservation and Restoration Using Digital 3D Models" under professor Shanmuganathan Raman.
- The project is funded by IMPRINT (Impacting Research Innovation and Technology) and NVIDIA (Hardware and software support)

Meditab Software (India) Pvt. Ltd.   **Sept 2018 - March 2019**
- Research on "Facility Layout Optimization" using Genetic Algorithm, developed an open source platform named ELOPE (Evolutionary Layout Optimization Playground and Evaluator).
- ELOPE was developed for evaluating and comparing different evolutionary algorithms for solving layout problems.

Bennett University, Greater Noida (Supported by NVIDIA DGX 1 Tesla V100)   **June 2018 - July 2018**
- Worked as an intern on the project entitled 'Footprint Classification'.
- Constructed a dataset of footprint, using simple paper scanner, and used it for developing an Artificial Intelligence algorithm to classify humans based on their foot size.

Bioscan Research, Ahmedabad   **April 2018 - July 2018**
- Worked as data analyst intern.
- Applied Artificial Intelligence and Machine Learning to an on-site detection tool for scanning of intracranial bleeding.

PROJECTS

Automatic Garbage Detection and Collection   **May 2018 - April 2019**
- Government funded project under Student Startup and Innovation Policy (SSIP)
- Designed and fabricated a robot that can collect the garbage on its own without any external help.
- Worked on an Artificial Intelligence algorithm for differentiating between garbage and useful thing. Developed an algorithm with $O(n)$ complexity for calculating the distance of the garbage from robot.

Anime Classification (GitHub)   **June 2018 - Aug 2018**
- Classified 1,20,000 anime images to answer 10 different questions.
- Trained an Autoencoder for extracting features from the image and also compressing it, then used a CNN for doing the decision making process.

Self Driving Car (GitHub)   **June 2018 - July 2018**
- Used Deep Q Learning technique for teaching a car to navigate in a given 2D environment.
- The car was able to react well when the obstacles were added after some training sessions.

Smile Detector (GitHub)   **June 2018 - June 2018**
- Trained a CNN for detecting smiling faces in a live video using either webcam or a pre-recorded video.
- Solved the issue of imbalanced data while working on this project.

Neural Network learning to play Cart-pole (GitHub)   **May 2018**
- Trained a Neural Network to learn how to balance an inverted pole on a moving platform.

PUBLICATIONS

- Constantin Ionescu-Tirgoviste, Alexandru Daia, Nicoleta Dragana, Siddhant Bansal, C. Vulpe, L. Guja, "Unexpected Results: Embedded Information in Fingerprints Regarding Diabetes" in 2018 ResearchGate and Academia

SKILLS

- **Programming Languages** : Python, C++, MATLAB
- **Libraries** : PyTorch, Keras, OpenCV, Numpy, Matplotlib
- **Tools** : PyCharm, Git, CLion, Jupyter, Latex