Siddhant Bansal

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EDUCATION

Vishwakarma Government Engineering College, Ahmedabad, India **2015 - 2019**
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) (YouTube) **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) (YouTube) **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