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DEVAL SHAH

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Portfolio

EMPLOYMENT

Software Engineer **Uncanny Vision** **June 2018 - Present**

- Developed an algorithm(an extension of optical flow) in C++ in Automatic Traffic Counting System(ATCS), which led to accuracy improvement of traffic density count from 83.5% to 94%.
- Redesigned the post-processing algorithm for ANPR(Automatic Number Plate Recognition) system to efficiently queue unique vehicles in unconstrained environments with more than 97% accuracy.
- Implemented a neural network pruning algorithm in Pytorch which led to 35%(reduction in training parameters) with 0.6% accuracy loss and 3x performance gains on Nvidia Tegra TK1 device.
- Worked on dense object detection problem to mitigate the false positive issue in two-stage detectors using Gaussian priors.
- Currently, working on vehicle re-identification across different ANPR edge devices for user verification.

Software Engineer, Intern **Uncanny Vision** **January 2018 - May 2018**

- Built a sophisticated web scraper in python using selenium web driver to scrape more than 0.2 million unique Indian car images.
- Created an automated test service on Azure for inference on stream data using object detection models and report mean average precision(mAP).
- Programmed a fast linear motion tracking model in C++ to tackle repeat license plate issues in a single lane.
- Optimized deep learning models using acceleration frameworks like OpenVino(Intel) and TensorRT(Nvidia).

Head Teaching Assistant **Ahmedabad University** **Fall 2017**

- Courses: Computer Vision, Data Analytics & Visualization.
- Promoted to Head TA in Fall 2017; conducted bi-weekly meetings and supervised class candidates.

EDUCATION

Ahmedabad, GJ **Ahmedabad University** **Fall 2014 – May 2018**

- B.Tech. in Information & Communication Technology, with Major in Computer Science. GPA: 3.25.
- Undergraduate Coursework: Software Design; Computer Vision; Machine Learning; Advanced Algorithms; Information Coding Theory

TECHNICAL EXPERIENCE

Major Projects

- **Face Recognition**(2017). Applied EigenFaces algorithm for face recognition on custom data. [Matlab]
- **Image Generation**(2016). Generated face images using DCGAN and Robust PCA. [Python]
- **Gesture Controlled Robot**(2016). Developed a robot using AtMega 32 chip and 3 axis accelerometer. [C]
- **Text Encryption Tool**(2015). Built an encryption tool for text files with GUI. [Java, JavaFX]
- Portfolio website *(For additional information and projects)*

ADDITIONAL EXPERIENCE

- **Techincal Writer (2017 – Present):** I create insightful content for *TowardsDataScience* publication and other clients in the machine learning domain.

SKILLS

- **Software** : *(Proficient)* : Python, C++, Unix & Pytorch, Keras, Tensorflow, Docker *(Familier)* : C, Java, SQL, Matlab, Javascript
- **Hardware** : *(Proficient)* : Nvidia Jetson TX2, Nvidia Jetson Nano, Intel UpSquared.