Kaunil Dhruv

http://kaunild.github.io
dhruv.kaunil@gmail.com | 998.731.0565

EDUCATION

UNIVERSITY OF MUMBAI
BE in Computer Engineering
Cum. GPA: 3.0

LINKS

Github:// **kaunild**
LinkedIn:// **kaunil-dhruv**
Facebook Research:// **dhruv-kaunil**

COURSEWORK

UNDERGRADUATE
Operating Systems
Artificial Intelligence
Systems Programming
Compiler Construction
Machine Learning

RESEARCH

MACHINE LEARNING
Transfer Learning
Weak and Semi-Supervised Learning
Active Learning

SKILLS

PROGRAMMING
Over 100kloc:
Java • Python • CPP
C • JavaScript • PHP
Over 1000 lines:
Assembly • MatLab • Bash

DEEP LEARNING
Frame Works
Tensorflow • Chainer

WEB DEVELOPEMNT
Front End
AngularJS • ReactJS •
Architectures
M.V.C

APP DEVELOPMENT
Android
React Native
Apache Cordova

EXPERIENCE

FACEBOOK | Software Engineering Intern + Software Engineer
September 2016 – Present | Skills : Python • Chainer • CPP • Android

- Worked with **Connectivity Labs** and mentored by **Prof. Ramesh Raskar** .
- **Data Augmentation** for Machine Learning Pipeline.
- Researched and implemented a **pipeline for Visualization of Learned Features** of a **CNN based on SGD** to improve model training for **SegNet** , **VGGBn** and **UResNet** architectures.
- Created **Data Annotation** tools using **Qt5** which was used by a team of GIS Analysts.
- Optimized rendering of 2D vector geometries on an Android App using an RTree based Data Structure.
- All the codes are **open sourced** to **facebookresearch/street-address**

ISENSES INC. | Software Engineering Intern
Jan 2015 – Jan 2016 | Skills : CPP • OpenCV • Android

- Developed a Machine Learning pipeline for **Disguised Face Detection** .
- Implemented a **SegNet** based feature extractor augmented with an **SVM Classifier** .
- Entire pipeline was optimized and implemented on a an FPGA and materialized into a product.

PUBLICATIONS

ROBOCODES: TOWARDS GENERATIVE STREET ADDRESSES FROM SATELLITE IMAGERY | CVPR EV 2017
Connectivity Labs | Facebook
Ilke Demir, Forest Hughes, Aman Raj, Kleovoulos Tsourides, Divyaa Ravichandran, Suryanarayana Murthy, **Kaunil Dhruv** , Sanyam Garg, Jatin Malhotra, Barrett Doo, Grace Kermani, and Ramesh Raskar

RESEARCH EXPERIENCE

LEARNER CENTRIC AFFECT MONITORING SYSTEM | KJSCE
Team : Prof. Kavita Kelkar
Areas : Affective Computing

- eLearning system adaptive to a Student's emotional state. Using student's facial expressions and their keyboard and mouse activity we classify the emotional state of the student into confused, confident, distracted.
- Facial expressions are classified using a Deep Convolutional Neural Network.
- Currently, researching the application of NLP for classifying keyboard and mouse activity.

COBRIX | MICROSOFT Imagine Korea Semi Finalist
Team : Dr. Jang Hee I • Giechol Shin
Algorithms : Faster-RCNN • SVM

- Project aimed at developing a **Physical Computing Interface for the visually impaired to learn computer programming** .
- Built a Machine Learning pipeline to identify objects and their bounding boxes (i.e localization and classification).

PROJECTS

OBJECT DETECTION AND TRACKING

Algorithms : CamShift • SIFT

- Tracking using a combination of CamShift and SIFT algorithms since color based CamShift alone had poor tracking performance in case of complex scenes.

MEDICAL REPORTS DIGITIZER | Extrapolate a user's health straight from their Medical Reports

Technologies : OpenCV • Android • O.C.R.

- Created an Android Application to scan and digitize a users medical reports.
- Results obtained from OCR of users' reports were then fed into a LSTM based RNN Network to generate summary of users' health.

TEXT SUMMARIZER | Generate headlines from a corpus of text

Technologies : Chainer • LSTM • Python

- Implementation of the Attentional Encoder-Decoder architecture described in **this** paper.
- Explored application of LSTM Networks for NLP.

AWARDS

2017	2nd/100 Place	Mircosoft Imagine Cup Korea Semi Finals

SOCIETIES

2015	ISTE	Web Admininstrator for KJSCE's Student Chapter
2016	CodeCell	Web Administrator for CODECHEF's Student Chapter