

Deshraj Yadav

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EDUCATION

JSSATE NOIDA

B.TECH IN COMPUTER SCIENCE
Aggregate Percentage: 77.4%

KENDRIYA VIDYALAYA

Class XII, CBSE: May 2012 | Manauri,
Allahabad
Aggregate: 85%
Class X, CBSE: May 2010 | Manauri,
Allahabad
CGPA: 9.4/10, 3rd in School

LINKS

Github:// [deshraj](#)
LinkedIn:// [deshraj-yadav](#)
Blogger:// [deshrajdry](#)
Twitter:// [@deshrajdry](#)

INTERESTS

Machine Learning, Distributed
Computing, Computer Vision, Data
Science

SKILLS

PROGRAMMING

- Python • C/C++ • C# • Lua
- Javascript • Shell Scripting

SOFTWARE DEVELOPMENT

- HTML • CSS • Django framework
- Web Scraping
- AWS EC2, S3, EBS, RDS, VPC
- Nginx • Git • Celery • RabbitMQ
- Redis • Docker • MySQL
- PostgreSQL • MongoDB
- Elasticsearch • Couchbase
- OpenCV • Torch • Android
- Windows Phone development

EXPERIENCE

MACHINE LEARNING AND PERCEPTION LAB, VIRGINIA TECH

RESEARCH ASSISTANT

June 2016 – Present | Blacksburg, Virginia

Working with Dr. Dhruv Batra and Dr. Devi Parikh currently Visiting Researchers at Facebook AI Research on Semantic Scene Understanding problems

- **Visual Dialog**: A novel task that requires an AI agent to hold a meaningful dialog with humans in natural, conversational language about visual content. Given an image, a dialog history, and a follow-up question about the image, AI agent has to answer the question. Paper out at: <https://arxiv.org/abs/1611.08669>
- Built demos of several vision and machine learning projects such as Gradient-weighted Class Activation Mapping (**Grad-CAM**), Diverse Beam Search (**DBS**) and Visual Question Answering Chatbot (**VQA Chatbot**)
- Teaching Assistant for 'Introduction to Machine Learning' Course taught by Dr. Stefan Lee

CLOUDCV | GOOGLE SUMMER OF CODE MENTOR AND TEAM LEAD

September 2015 – Present | Virginia Tech, Virginia

- Mentored two projects, along with on boarding students, helping them understand the codebase and guide them for proper project planning
- EvalAI: Leading a team of 14 developers to build an open source web-based platform for hosting and participating in AI Challenges which shall host challenges like Visual Question Answering Challenge, MSCOCO Challenge etc.
- Responsible for managing distributed computing server, building new REST APIs, demos and helping out new contributors for getting started with CloudCV

CITYFLO | SOFTWARE DEVELOPMENT INTERNSHIP

December 2015 – February 2016 | Mumbai

- Responsible for setting up an Test Driven Development for Continuous Integrations in the backend codebase which helped the whole software engineering team to spend more time on building new features rather than maintaining and fixing bugs and issues

SIFTR LABS | PRODUCT DEVELOPMENT INTERNSHIP

September 2015 – December 2015 | Noida

- Responsible for building REST APIs and creating an Android Application which communicates with beacons (Low energy Bluetooth devices) to perform actions
- Implemented A-star algorithm to get real time position of a person using beacons signal strength.

GOOGLE | GOOGLE SUMMER OF CODE STUDENT

May 2015 – August 2015

- Selected for GSoC 2015 under CloudCV Organization
- Built authentication system, designed a new Database and wrote RESTful web services
- Integrated NVIDIA's Deep Learning Framework DIGITS with CloudCV to provide workspaces for the Researchers, Data Scientists and Developers

FRATMART | BACKEND DEVELOPER

August 2014 – December 2014 | Noida

- Started my own venture when I was a sophomore
- Responsible for product development from scratch, managing the servers, database management and other backend scripting tasks

COURSEWORK

UNDERGRADUATE

Data Structures and Algorithms
Operating Systems
Object Oriented Programming
Artificial Intelligence
Database Management System
Parallel Algorithms
Coursera:
Machine Learning
by Andrew Ng
Learn to Program: The Fundamentals
by Jennifer Campbell

TALKS AND SEMINARS

Talk on CloudCV Projects, Google
Tech Corners, Sunnyvale
CloudCV demonstrations, CVPR 2016
Getting started with GSOC, GDG
JSS Noida

EXTRA-CURRICULAR

ACTIVITIES

Head Organizer, Hackathon 2015,
sponsored by Microsoft Finland
Founder, Open Source Developers
Community, JSS Noida
Core Team Member, Zealicon
Techfest Organizing Committee

ACHIEVEMENTS AND AWARDS

- Felicitated for securing highest paying job from Campus since its establishment
- Travel Scholarship recipient for Google Summer of Code Mentor Summit, 2016
- National Means Cum-Merit Scholarship Recipient with State Rank 13 (Offered by Ministry of Human Resource and Development, Government of India)
- Prime Minister Scholarship Scheme recipient by Ministry of Defence, India
- Winner of Cassiopeian Wars 2014 at Microsoft Mobile Innovation Labs
- First Runner Up at HACK-A-THON SUMMER 2014 organized by Google Developers Group Lingaya's University. Won prize of worth Rs. 25,000
- Second Runner Up in Linux Challenge organized at NSIT Delhi
- First Runner Up at Junkyard Wars organized at University of Delhi

PROJECTS

GRADIENT-WEIGHTED CLASS ACTIVATION MAPPING (GRAD-CAM) DEMO

- Grad-CAM highlights regions of the image the VQA model looks at while making predictions. Given an image and a caption or question about that image, the model shows where it looked while doing prediction.
- Built the demo from scratch involving setting up the backend pipeline, setting worker queues, building the Python Lua bridge and writing the frontend code.
- Live Demo link: <http://gradcam.cloudcv.org>

VISUAL QUESTION ANSWERING TWITTER BOT

- Given an image and a natural language question about the image as a tweet mentioning @deshrajdry, the bot provides an accurate natural language answer as a reply to that tweet.
- This project involves use of Twitter Streaming API for replying and RabbitMQ for running the prediction job in a worker.

DIVERSE BEAM SEARCH DEMONSTRATION

- The demo proposes a diversity-promoting replacement that produces sequences that are significantly different from beam search.
- Live Demo link: <http://dbs.cloudcv.org>

JSS CONNECT WEB APPLICATION

- Built a django based web app for information exchange between the college administration and students
- Serves more than 4,000 requests daily
- Live Project link: <http://210.212.85.155>

PUBLIC HEALTH SURVEILLANCE SYSTEM

- Django based web application for analyzing the areas where the Swine Flu disease is increasing with the help of Google Maps API and sending email alerts to schools and Hospitals located in between the 5 km range
- Heat maps are also generated for visualizing the areas which are more vulnerable

PYURL (URL SHORTENER)

- A customized URL shortening service that lets the user to get custom shortened URL that he wants.