Deepak Kumar

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EDUCATION

IIT KANPUR
B.Tech Computer Science
Grad. June 2016
CGPA: 7.4

KENDRIYA VIDYALAYA
Class 12
Grad. May 2012| Kochi, India
AISSE (CBSE) : 97.6%

Class 10
Grad. May 2010| Kochi, India
AISSCE (CBSE) CGPA : 10

LINKS

Github:// **kumardeepakr3**
LinkedIn:// **kumardeepakr3**

COURSEWORK

UNDERGRADUATE
Machine Learning
Computer Vision
ML for Computer Vision
Computer Networks
Computer Organisation
Operating Systems
Compiler Design
Advanced Linear Algebra
(Graduate level course)

MOOCS
Nand to Tetris - 1 (Coursera)

SKILLS

PROGRAMMING
Over 1000 lines:
C • Javascript • C# • Python
Over 500 lines:
C++ • Assembly
Familiar:
Android • MySQL • MongoDB

ACTIVITIES

FOOTBALL
• Winners U-17 Inter-school at district level (2010).
• Represent Microsoft at various tournaments in Hyderabad.

BLOODCONNECT
VP Helpline Kanpur Chapter 2014

EXPERIENCE

MICROSOFT | Software Development Engineer - 1
July 2016 - Present | Hyderabad, India

- Working under AI + Research division of Microsoft.
- Worked for Bing Trivia and Bing Rewards and generated 100 million distinct search queries per quarter for the team.
- Created Flight booking experience on Bing using data from third party for users to view itineraries on search page. Integrated delay prediction for flights.
- Tech/Skills used: C#, Javascript, Git

MICROSOFT | Software Development Intern
May 2015 – Jul 2015 | Hyderabad, India

- Leveraged OpenStreetMap polygons for Business Entities like Malls, Stadiums, Restaurants and mapped them to Bing Business Entities.
- Used SCOPE and COSMOS environment to extract Bing Local Entities and applied string matching and polygon expansion to increase lat-long precision of Bing Entities.
- Automated the entire process and pushed this to the Bing Local Ingestion pipeline.

PROJECTS

PEDESTRIAN DETECTION USING FAST R-CNN
Course: Computer Vision, Advisor: Prof. V. Namboodiri (Jan-Apr 2016)
Finetuned ImageNet pretrained model to adapt to pedestrian detection by changing the final CNN innerproduct layer. Used this caffe model to generate feature vector corresponding to each bounding box. Trained a LinearSVM for final classification. Obtianed overall precision of 88.2% on INRIA person dataset.

SCALABLE VOCABULARY TREE FOR IMAGE CLASSIFICATION
Course: Computer Vision, Advisor: Prof. V. Namboodiri (Jan-Apr 2016)
Created scalable vocabulary tree for object recognition on UKY dataset. Applied hierarchical k-means clustering on SIFT features for this and implemented idf based scoring. Evaluated it with different branch factors and different depths.

COMPILER FOR PERL
Course: Compiler Design, Advisor: Prof. Subhajit Roy (Jan-Apr 2015)
Implemented end to end compiler for perl in python generating machine code for x86 architecture. Added supoort for data types like int, string along with operators, statments, loops and functions (including recursive).

AUTOMATED AIR HOCKEY
Summer Project, Robotics Club, IITK (Jan-Apr 2015)
Implemented Air Hockey between two bots (one automated and one manual). Optimised the coordinates of the bot by improving algorithm for ball velocity vector detection and dynamic calibration of motor rpm.

AWARDS

- C.S. Venkataraman Memorial Award for securing State Rank 3 in Kerala in Regional Mathematics Olympiad 2011 (RMO - precursor to INMO).
- B.R. Ambedkar National Merit Award for highest marks in CBSE (Science-Medical) in the country among all eligible candidates (2012).
- State Rank 1 in National Science Olympiad with 97.4 %ile (2009).
- Among top 0.1% of students with highest marks in CBSE Physics (2012).