

Dhruv Kumar Yadav

Senior Member of Technical Staff

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Education

- 2018–Present **Graduate Non-Degree Option**, *Stanford University*, CA, USA.
Advanced Software Systems- GPA: **4.0***
- 2011–2015 **B.Tech**, *Indian Institute Of Technology Kanpur*, India.
Computer Science and Engineering- CGPA: **9.4/10**
- 2011 **All India Senior Secondary School Certificate Examination, CBSE, India**, *Modern Child Public School*, New Delhi.
Cumulative **92.8%** in the subjects– Mathematics, Physics, Chemistry, English and Physical Education
- 2009 **All India Secondary School Certificate Examination, CBSE, India**, *Hans Raj Model School*, New Delhi.
Cumulative **91.8%** in the subjects– Mathematics, Physics, Chemistry, Biology, English, Sanskrit and Social Science

Awards and Achievements

- 2012-2014 Honored with **Academic Excellence Award** for outstanding academic achievements for **3 consecutive years**(2011-12, 2012-13, 2013-14) during my stay at IIT Kanpur.
- 2012-2013 Awarded **A* grade** in Computer Architecture and Organisation for exceptional performance at IIT Kanpur
- 2011 Secured All India General Rank-1484 in **IIT-JEE 2011 : 99.7 percentile**
- 2011 Secured **1st position** at School in Senior Secondary Examination 2011
- 2009 Awarded Merit Certificate for scoring maximum marks in Maths in CBSE Board

Publications

- 2015 **Dhruv Kumar Yadav**; Beatrice Ionascu; Sai Vamsi Krishna Ongole; Aditi Roy and **Nasir Memon**. "Design and Analysis of Shoulder Surfing Resistant PIN based Authentication Mechanisms on Google Glass", Workshop on Wearable Security and Privacy 2015 (associated with Financial Crypto 2015), Isla Verde, Puerto Rico.[pdf]

Work Experience

- Dec'2017 - **Senior Member of Technical Staff**, Public Cloud Platform Development Group,
Present Oracle America Inc., CA, USA
- Feb'2015- **Member of Technical Staff**, Oracle Public Cloud Platform Development Group,
Nov'2017 Oracle America Inc., CA, USA
- Aug'2015- **Member of Technical Staff**, Oracle Public Cloud Platform Development Group,
Jan'2017 Oracle India Pvt. Ltd., Bangalore, India

- Designed and developed software modules for Rest-Based applications like
 - *Common Instance Management* (provisioning platform for cloud based services),
 - *Metering and Quota Management System* (Aggregating usage and managing quota for Oracle Cloud Services),
 - *Cloud Tagging Service* (centralized repository for tag management across Oracle Public Cloud).
 APIs were developed using **Jersey** and supporting database application was developed in **Object Oriented PL/SQL**
- Implemented functionalities like automating life-cycle operations like **onboarding, update, cancellation and deletion** of cloud services, automating the **metering** for Oracle cloud customers, **relocation of cloud services** across identity domains and **association of cloud services** for synergistic functionality.
- Developed **XML based blueprints** for various cloud services. This enables the services to specify the physical footprint requirements and the execution flow for various provisioning lifecycle operations
- Working with Oracle Development Operations Team to resolve the customer and production environment issues on regular basis
- Fixing bugs in the order provisioning system known as Tenant Automation System which works in conjunction with CIM and Metering
- Actively involved in database schema design of the order processing flow

Undergraduate Thesis

Jul'2014 - **IIT Kanpur, India.**

Apr'2015 **Combining Knowledge Transfer and Selective Sampling for Visual Learning from the Web**

Mentored by: **Prof. Vinay P. Namboodiri** (IIT Kanpur, India), **Dr. Tatiana Tommasi** (University of Leuven, Belgium)

Designed and implemented a method to scalably learn visual models using images obtained from web queries by

- Bootstrapping the initial learning through pre-existing supervised information
- Actively sampling and thereby selecting in a principled way a clean set of images from the weakly annotated Web data
- Stopping the learning process and the addition of more data samples when it does not improve the visual model

Internships

May'2014 - **New York University, NY.**

Jul'2014 **Alternate Authentication Mechanisms for Google Glass**

Mentored by: **Prof. Nasir Memon** (New York University)

- Developed three alternate authentication mechanisms (Voice based, Touchpad swipe based and Hand Gesture Based PIN) for Google Glass platform with enhanced security and usability experience
- Gesture based authentication mechanism was designed using hand detection techniques on OpenCV and Voice based mechanism utilized CMU sphinx and Google API to recognize speech

May'2013 - **IIT Kanpur, India.**

Jul'2013 **BIGNET 2.0:** tool for building & visualizing hierarchical, multi-level gene interactions

Mentored by: **Prof. Harish Karnick** and **Prof. Arnab Bhattacharya**(IIT Kanpur)

- Tested Machine Learning Algorithms using bag-of-words model and utilized StanfordCore-nlp Parser to extract the nature and hierarchy of the functional interaction between a gene pair from text
- Worked with POSTGRESQL and MONGODB DBMS and SAX XML Parser on Java

Selected Projects

Jul'2014 - **Emotion Analysis using Facial Expressions: Deep Neural Network Approach.**

Oct'2014 Mentored by: **Prof. Amitabha Mukerjee**(IIT Kanpur)

- Applied deep learning to automatically recognise macro expressions from videos
- Auto-encoder is first trained with dataset of facial expressions and then the weights are used to classify test videos using softmax and logistic regression

Jan'2014 - **Landscape Identification Using AR.Drone.**

Apr'14 Mentored by: **Prof. Amitabha Mukerjee**(IIT Kanpur)

- Utilized Bag of Visual Words Model to describe various buildings at IIT Kanpur as visual words and implemented one vs all SVMs for classification
- Built a comprehensive dataset comprising of aerial imagery of buildings captured using front camera of quadcopter AR.Drone

Relevant Courses Taken

ML/CV and Graphics Computer Vision and Image Processing, Machine Learning Techniques in Computer Vision, Introduction to Computer Graphics

AI and Cognition Artificial Intelligence Programming, Introduction to Cognitive Sciences, Social Cognition

CS Theory Data Structures and Algorithms, Algorithms-II (Advanced Algorithms), Theory of Computation, Logic for Computer Science

Systems Advanced Operating Systems, Operating Systems, Database Management Systems, Computer Networks, Compiler Design

Mathematics Probability and Statistics, Linear Algebra and Complex Analysis, Discrete Mathematics, Single and Multi-Variate Calculus

Skill Set

- **Programming Languages:** C, C++, Java, PL/SQL, Swift, Android (Mobile and Google Glass platform), Python(numpy, Pygame,lxml)
- **Web Development:** Html, CSS, PHP
- **Other tools:** Matlab, GNU Octave, OpenCV, OpenGL, Shell Scripting, Latex, Lex, Yacc

Volunteer Experience

- **Teacher and Counselor**, Vidyamandir Classes Pvt. Ltd, Delhi (May 2011 to December 2013)
 - Delivered 100+ lectures in topics of Inorganic Chemistry and mentored more than 200 high school students preparing for Joint Entrance Examination (JEE)
- **Teacher**, PRAYAS, IIT Kanpur (May 2013-June 2015) Students initiative at IIT Kanpur to provide free quality school education to those students who are deprived of it