



Kalpesh Pradeep Dusane
Computer Science & Engineering
Indian Institute of Technology Bombay

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M.Tech.
Male
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Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2019	0.00
Undergraduate Specialization : Computer Engineering				
Graduation	Savitribai Phule Pune University	Sinhgad Academy of Engineering	2015	72.41

MTECH PROJECT AND SEMINAR

- **Scaled Topography from the video sequence of underwater images** (January 2018 - Ongoing)
(M.Tech Project & Seminar, Guide: Prof. Ajit Rajwade)
 - Estimated depth of underwater scene in various underlying ground structures such as piecewise constant
 - Used feature point tracking algorithm which were implemented using Siamese Convolution Neural Network
 - Surveyed various water surface shape reconstruction methods which includes optical flow based method, learning model-based method, and motion blur model-based method

WORK EXPERIENCE

- **Cognizant Technology Solutions** | Programmer Analyst Trainee, Chennai (September 2015 - September 2016)
 - Full-stack design and implementation for a web application using the Agile technique in C# .NET
 - Incorporated Kendo UI framework and improved the front-end functionality of a web application
- **Persistent Systems Pvt. Ltd.** | Project Intern, Pune (June 2014 - April 2015)
 - Developed an application using **CUDA C++** which implemented the content-aware image resizing algorithm
 - Achieved $\sim 7.5\times$ acceleration in the GPU execution time compared to CPU due to a high degree of parallelism

COURSES TAKEN

Foundations of Machine Learning	Advanced Image Processing	Artificial Intelligence
Learning Analytics and Educational Data Mining	Advanced Machine Learning	Computer Vision
Fundamentals of Digital Image Processing	Algorithms and Complexity	

COURSE PROJECTS

- **Multi-label Image Classification of the Amazon Rainforest** (February 2018 - April 2018)
Experimented with various combinations of CNN and RNN where CNN encoded the image while the RNN predicted labels in each time-step and used pre-trained VGG-16 as CNN which was fine-tuned while training
- **Inferring Basis Mismatch in Image Representations** (March 2018 - April 2018)
Implemented the method of Alternating Convex Search(ACS) which uses standard l_1 -minimization to find the signal model coefficients followed by a maximum likelihood estimate of the signal model
- **Automatic Image Colorization** (October 2017 - November 2017)
Converted the training images to LAB colorspace then framed the task as a regression task and trained simple neural network, the neural network with SURF features. Used Convolutional Neural Network to colorize images
- **Credit Card Fraud Detection System** (November 2017)
Solved binary classification problem by applying various machine learning models like Logistic Regression, Support vector machine (SVM), Neural Network, Random Forest classifiers with hyperparameter tuning

TECHNICAL SKILLS

- **Languages:** C, C++, C#, Python (SKlearn, Pandas, Numpy, Matplotlib, PyTorch), MATLAB
- **Web Development:** HTML, CSS, JavaScript, JQuery
- **Tools:** Git, Microsoft Visual Studio, \LaTeX

ACHIEVEMENTS AND ACTIVITIES

- Scored **99.84** percentile in GATE 2017 CS/IT amongst 96,878 candidates (2017)
- Ranked **2nd** in the batch from Computer Science Department in Bachelor's final year (2015)
- Secured **2nd** prize for the bachelor's project in Project competition held by CSI student Chapter (2015)
- Among **top 1%** students in HSC(12th examination) of maharashtra state board (2011)
- Sho Dan (**Black Belt**) in Shotokan Karate Style from Japan Karate Association(JKA) (2009)
- Participated in **5km Cycling, 5km Crossy running** at PG Sports IIT Bombay (2017-2018)

POSITIONS OF RESPONSIBILITY

- Assisted in the placement of 1600 students as an **Interview Coordinator** during 2017-18 placements at IIT Bombay
- **Teaching Assistant** - CS663: Fundamentals of Digital Image Processing and CS101: Computer Programming