Kalpesh Dusane

Bangalore, India
www.linkedin.com/in/kalpeshpdusane

@ **kalpeshpd.dusane8@gmail.com**
+91-9096982779
bit.ly/KalpeshDusane

EDUCATION

Degree	University	Year	CGPA
M.Tech (Post Graduation)	IIT Bombay **Computer Science & Engineering**	July'17 - June'19	8.37/10
B.E. (Graduation)	Pune University **Computer Science & Engineering**	July'11 - June'15	8.11/10

WORK EXPERIENCE

- **Oracle** | *Bangalore, India*

  Senior Member of Technical Staff | *Advanced Queuing* *April'22 - Present*
  - Developed an automated online migration tool assisting seamless transition for over **10k+** Oracle Advanced Queue customers to the new Transactional Event Queue without losing the message state and data
  - Orchestrated the integration of essential APIs, incorporating robust commit and fallback mechanisms, queue status validation, comprehensive message statistics generation, and effective crash recovery management
  - Enhanced the driver code to integrate a routing mechanism catering to various datatypes and interfaces
  - Designed a novel API for renaming transaction event queue objects, enabling users to take backup and create a new queue with an existing name without modifying the application
  - Resolved several complex challenges in feature integration, including implementing replication support, maintaining library cache consistency, and managing latches and locks to handle concurrent operations.

  Member of Technical Staff | *Advanced Queuing* *July'19 - April'22*
  - Created an API tailored for Advanced Queue users, facilitating thorough compatibility assessments to detect unsupported features in the Transactional Event Queue
  - Contributed to AQ-JMS client-side layer to handle various enqueue, dequeue, and large payload scenarios
  - Integrated in-house application continuity framework into advanced queue APIs and implemented an enhancement to support replay for interconnected enqueue-dequeue operations
  - Fixed bugs across multiple domains, including export-import, rules engine, handling of large payloads for the JMS text type, and queue-level security privileges

  Tools & Technologies: C, PL/SQL, Java

- **Cognizant** | *Chennai, India*

  Programmer Analyst Trainee *Sep'15 - Sep'16*

  Content Management System | *Banking & Finance*
  - Worked as a full-stack software engineer on the agile development of a web application that provides a content management solution that allows users to create and customize cards or other financial documents
  - Utilized Kendo UI framework to elevate front-end functionality, enhancing user experience

  E-Learning Platform | *Cognizant Internal*
  - Handpicked as a member of a 30-person team spanning India, entrusted with an internal project targeting employees undergoing training procedures
  - Developed a complete module responsible for capturing and displaying the results of tests taken by a trainee

  Tools & Technologies: C#, SQL Server 2014, JavaScript

- **Persistent Systems Ltd.** | *Pune, India*

  Project Intern | *Image Retargeting using CUDA enabled GPU* *June'14 - April'15*
  - Developed a Windows application that reduces the size of an image using the content-aware image resizing algorithm - **Seam Carving**
  - Achieved ∼**7.5X** acceleration in GPU execution time compared to CPU, optimizing application performance

  Tools & Technologies: CUDA C++, Multi-Threading

MAJOR PROJECTS

- **Depth Estimation of Underwater Images** *May'18 - June'19*
  M.Tech Project (Advisor: Prof. Ajit Rajwade)
  - Estimated the depth map of the submerged ground surface from video sequences captured by a stationary camera placed above the water
  - Implemented KLT and **Siamese Convolutional Neural Network**(CNN) to track salient feature points
  - Utilized the K-means clustering algorithm to estimate piecewise flat surfaces within the context accurately
  - Applied the **MultiRANSAC** algorithm to estimate piecewise planar surfaces effectively
  - Constructed a loss function utilizing the L1 norm, precisely customized for generic arbitrary surfaces, while achieving a relative error rate of **7.89%**.
  - **Tools & Technologies: Python(NumPy, SciPy, Matplotlib), Matlab**
- **Multi-label Classification on Satellite Images of the Amazon Rainforest** *Jan'18 - May'18*
  Computer Vision (Advisor: Prof. Arjun Jain)
  - Solved the Multi-label Image Classification problem using **CNN-RNN architecture** with pre-trained VGG-16
  - Explored attention mechanisms for CNN output and achieved an **F2 score of 90.25** on a Kaggle competition
  - **Tools & Technologies: Python (cv2, PyTorch, pandas)**
- **Automatic Image Colorization** *Aug'17 - Dec'17*
  Digital Image Processing (Advisor: Prof. Ajit Rajwade & Prof. Suyash P. Awate)
  - Converted the training images to LAB colorspace, then framed the task as a regression task and trained a simple neural network on extracted SURF in scikit-learn
  - Trained **VGG-16 CNN** model to predict the AB space using the grayscale image as input
  - **Tools & Technologies: Python (SciPy, cv2, sklearn)**

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python
- **Tools:** Git, Microsoft Visual Studio, LaTeX

ACHIEVEMENTS

- Achieved the **99.84th percentile** in **GATE-2017** CS/IT examination out of a total of **96,878** candidates *2017*
- Secured the **2nd** position in the computer science department within the bachelors program *2015*
- Received **2nd** prize for a bachelor project in a CSI Student Chapter's project competition *2015*
- Earned place in the **top 1 percent** of **3,67,674** aspirants in Class XII examination of **Maharashtra State Board** *2011*

EXTRACURRICULAR ACTIVITIES

- **Teaching Assistantship** | *IIT Bombay* *Aug'17- May'19*
  - Evaluated lab and exam assignments and provided support in conducting exams to more than **450** students enrolled in the CS101 Computer Programming & Utilization course during two semesters
  - Resolved student's doubts about Digital Image Processing(CS663) and Computer Vision(CS763) courses
- **Interview Coordinator** | *Placement Team IIT Bombay* *Nov'17 - Dec'17*
  - Assisted in the placement of **1600** students within a team of 200 students during the 2017-18 placements