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Ancient Temple Pillar Images Dataset
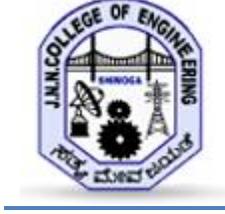
The KU-UBDTCE-JNNCE Temple Pillar Dataset for Ancient Temple Pillar Architecture research is constructed by collecting the temple pillar images with five basic types of architecture such as 1)Bhramakantha , 2)Vishnukantha, 3)Rudrakantha , 4)Bhanukantha and 5) Soumyakantha. The dataset is collected from various places such as: 1. Amrutheshwara Temple at Amruthapura Village, 2. Yoga Narasimha Temple at Baggavalli Village , 3. Aghoreshwara Temple at Ikkeri Village, 4. Parvathi Brahmeshwara Temple at Kudli Village, 5. Sri Malikarjuna Temple at HireNalluru Village, 6. Hucharaya Swamy temple at Shikaripura Village in and around the shivamogga and chikamagaluru districts of Karnataka state, India. Along with these some images also collected from web with the help of google search and trip advisor travel portal.

KU-UBDTCE-JNNCE comprises five sub-datasets namely 1)Bhramakantha , 2)Vishnukantha, 3)Rudrakantha , 4)Bhanukantha and 5) Soumyakantha. These five sub-dataset in-turn it contains two sub-datasets Input_Images and Ground_Truth_Images. The brief description of the KU-UBDTCE Ancient Temple Pillar Dataset is given in Table 1.

Table 1: KU-UBDTCE-JNNCE Ancient Temple Pillar Dataset

Sl.No.	Type of Pillar Architecture	Total Number of Samples	Description
1.	Bhramakantha	400	Camera Device used for capturing images is Samsung having the SM-G615F with F-stop: f/1.7. All Images are captured in 3 different time slots 10.00 AM to 10.45 AM, 2.00 PM to 2.40 PM & 5.15 PM to 5.40 PM. inorder to get better images for processing
2.	Vishnukantha	231	
3.	Rudrakantha	373	
4.	Bhanukantha	173	
5.	Soumyakantha	328	
Total		**1505**	

Purpose: The KU-UBDTCE-JNNCE Ancient Temple Pillar Dataset is meant to be used for research purposes and shall not be used nor included in commercial applications in any form (e.g., original files, encrypted files, files containing extracted features, etc).

I. Collection Process

Dataset consisting of 1505 images of Ancient Temple Pillar which includes 1) 400-Bhramakantha , 2) 231-Vishnukantha, 3) 373-Rudrakantha , 4) 173-Bhanukantha and 5) 328-Soumyakantha. Working with custom data comes with the responsibility of collecting the right dataset. Good dataset is crucial in achieving highest possible accuracy. The standard rules for those who are building own datasets are as follows

Rule 1 : Plan and simplify

In the beginning we must think about how does the computer sees the images it is important to understand environment, type of camera or lighting conditions. Want to use the API in a mobile camera? Aim to collect images captured by mobile phone so they match with future images.

Rule 2 : Collection

For all the tasks we tried to get the most variable and diverse dataset of pillar images. `Following are some tips for collection of most variable and diverse dataset:

- Get images from different angles.
- Change lightning conditions.
- Take images with good quality and in focus.
- Change object size and distance.

Camera Device used for capturing images is Samsung having the SM-G615F with F-stop: f/1.7. All Images are captured in 3 different time slots 10.00 AM to 10.45 AM, 2.00 PM to 2.40 PM & 5.15 PM to 5.40 PM. inorder to get better images for processing as shown in Table 2. The all five architecture styles of Pillar original images & Ground truth images are stored in JPEG format with a suitable naming convention as shown in Table 3. All images are resized into 256X256 and stored in jpeg format.

Table 2: Ikkeri - Aghoreshwara Temple pillars

Time slot	10.00 AM to 10.45 AM	2.00 PM to 2.40 PM	5.15 PM to 5.40 PM
Pillar			

Table 3: Architecture Styles of Temple Pillar Images

Architecture Styles	1) Bhramakantha	2) Vishnukantha	3) Rudrakantha	4) Bhanukantha	5) Soumyakantha
Pillar (Captured/Acquired Image)	1……400	1……231	1……373	1……173	1……328
Pillar (Ground Truth Image)	1……400	1……231	1……373	1……173	1……328

II. Labeling:

In this subsection the approach we have used to do labeling is detailed based on basic parts of the pillar. Initially we created a main directory by the name STYLES under which three sub directories are created having the names as BHRAMAKANTHA, VISHNUKANTHA, RUDRAKANTA, BHANUKANTHA and SOUMYAKANTHA and in those each sub directories all our captured/acquired dataset images are stored with image name/labels as 1,2,3,….N separately.

In the same manner the created ground truth images dataset is prepared by creating a main directory having the name as GROUND TRUTH with three sub directories like BHRAMAKANTHA, VISHNUKANTHA, RUDRAKANTA, BHANUKANTHA and SOUMYAKANTHA and in each sub directory all those crated ground truth images (created with the help of GIMP tool) are stored separately having the image name/label as 1,2,3,….N.

Figure 1: Labeling of Ground Truth Images of Different Pillar Style in .CSV Format.

Finally, this hole labeling process recorded in .CSV file having the fields as id and category as shown in Figure 1.The id field will have values like

BHRAMAKANTHA/1,BHRAMAKANTHA/2,------BHRAMAKANTHA/X1,

VISHNUKANTHA/1,VISHNUKANTHA/2,------------VISHNUKANTHA/X2,

RUDRAKANTA/1,RUDRAKANTA/2,--------------------RUDRAKANTA/X3,

BHANUKANTHA/1,BHANUKANTHA/2,--------------BHANUKANTHA/X4,

SOUMYAKANTHA/1,SOUMYAKANTHA/2,------SOUMYAKANTHA /X5.

and category field will have style values like BHRAMAKANTHA, VISHNUKANTHA, RUDRAKANTA, BHANUKANTHA and SOUMYAKANTHA in continuous manner.

The all five types of Pillars original images & Ground truth images are stored in JPEG format with a suitable naming convention as shown in Table 2.

Note: To get the unprocessed images (original images without resize) mail to devguruphd4u@gmail.com, we will share the images through google drive.