

# B.V. RAGHAV

## PERSONAL INFORMATION

Born in Lucknow, 27 January 1984

email [bvraghav@iitk.ac.in](mailto:bvraghav@iitk.ac.in)  
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## EDUCATION

2014+ Indian Institute of Technology Kanpur

*Doctor of  
Philosophy*

GPA: 8.75 · Pursuing · Design Programme  
Research Interest: *Computer Vision for Architecture*  
The prime focus of research is document parsing, retrieval and visualization within the context of architectural sketches.  
Advisor(s): Prof. Vinay P. NAMBOODIRI

2002–07 Indian Institute of Technology Roorkee

*Bachelor of  
Architecture*

GPA: 7.7 · Best Thesis · Department of Architecture and Planning  
Thesis: *Design of International Airport at Jaipur*  
This thesis attempted to express the cultural heritage of Rajasthan along with the modernity of the aviation sector.  
Advisor(s): Prof. PUSHPLATA

## PUBLICATIONS

Mar '20 Can I teach a robot to replicate a line art

WACV20

Raghav, B.V. and Kumar, Subham and Namboodiri, Vinay P. *Proc. 26<sup>th</sup> IEEE Winter Conference on Applications of Computer Vision. 2020.*  
The research performs structured prediction from a raster sketch in two steps: the former performs segmentation into corners and edges using deep learning, and the latter provides a graph interpretation. The structure is further parsed as a stroke list and an application is further exemplified through a CNC plotter and a robotic arm.

Jan '21 SHAD3S: A model to Sketch, Shade and Shadow

WACV21

Raghav, B.V. and Joshi, Abhishek and Narang, Saisha and Namboodiri, Vinay P. *Accepted to 27<sup>th</sup> IEEE Winter Conference on Applications of Computer Vision. 2021.*  
SHAD3S is a completion framework that tries to replace the traditional graphics based rendering pipeline for a nice style of sketching and hatch patterns.

## ACADEMIC PROJECTS

Jul–Sep '18 VIBEX: Vision based extrusion

*Vibex*

Vibex is a basic pipeline for: vectorization of architectural sketches—vector representation to 3D—and visualization of 3D. The implementation is in python.

Jan–Apr '18 D-SKRYBE: Representing an architectural drawing

*D-Skrybe*

In an attempt to describe an architect's drawing in machine representation, we train a model using deep learning to classify sketches, and then retrain it with an objective to tell similar looking architectural sketches from the others.

Aug-Dec '17 TYLITUP: Optimizing the tile waste

Tylitup

Tylitup is an algorithm for construction industry. Given a set of tile requirements, that need to be cut on site before application. *How to cut them* with minimum wastage, was the problem solved here using *Integer Program*

#### AWARDS — CONFERENCES — WORKSHOPS

WACV20  
(Oral Paper)

1–5 Mar '20 · Winter conference on Applications of Computer Vision, ASPEN COLORADO, USA Oral Paper. Can I teach a robot to replicate a line art

NCVPRIPG

22–24 Dec '10 · National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics. Member Programme Committee.

CVSS-CVAI  
(Award)

2–14 July 2018 · Summer school on Machine Learning and Computer Vision IIT HYDERABAD, India. Awarded for performance. Top 20 in 100+ participants.

#### WORK EXPERIENCE

Administration

2016+ · System Administrator, Deltalab · 50+ users, ~ 10 GPU servers

Teaching

Sep '12 — Jul '14 Lecturer · AMITY UNIVERSITY HARYANA

Web Marketing

Jul '09 — Sep '12 Proprietor · EZINX WEB SOLUTIONS

Practising  
Architect

Aug '08 — Mar '09 Designer · FWD ARCHITECTS, Hyderabad

Sep '07 — Jul '08 Designer · FLUIDWORKS DESIGN, Gurgaon

Jan '07 — Sep '07 Designer · IDIOM DESIGN STUDIO, Bangalore

#### TECHNICAL SKILLS

Programming  
Text & Typesetting  
Frameworks  
Graphics

Python, Lisp, Javascript, C, C++, PHP, HTML, CSS

Emacs, L<sup>A</sup>T<sub>E</sub>X, ViM, Doxygen

OpenCV, PyTorch, Tensorflow, OpenGL, Flex-Bison

GIMP, Inkscape, Blender, AutoCAD, BRL CAD

#### OTHER INFORMATION

Languages

TAMIL · Mother tongue

HINDI · Proficient

ENGLISH · Functional knowledge

#### REFERENCES

1. DR. VINAY P. NAMBOODIRI  
Associate Professor, CSE IIT Kanpur, [vinaypn@iitk.ac.in](mailto:vinaypn@iitk.ac.in)

2. DR. T.V. PRABHAKAR  
Professor, CSE IIT Kanpur, [tvpr@iitk.ac.in](mailto:tvpr@iitk.ac.in)

3. DR. PUSHPLATA  
Professor, Deptt. of Arch. and Plg. IIT Roorkee, [pushpfap@iitr.ac.in](mailto:pushpfap@iitr.ac.in)

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