

## **RESUME**

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**CAREER OBJECTIVE:** - *Fostering and engaging creative research explorations through Digital mediums to test and understand its significance in architectural academics and practice*

### **PROFILE: -**

An Architect with a 26 years' of experience in architectural academics and a decade-long experience in algorithmic programming for architecture.

Currently, as a course co-coordinator for the M. Arch (Digital Architecture) course at BNCA Pune, my role is to develop and execute formal content in this highly active period of design development that involves Digital tools ie CAD/CAM processes for an architectural domain.

My areas of interest lie in investigating the use of algorithmic techniques and digital tools for their capacity to influence design decisions. My work experience allows me to explore digital to physical workflows that involve computer simulations, 3D modeling, algorithmic mediation and digital prototyping and AI

My research interests are in investigating the changes in architectural discourse in relation to the increased significance of digital technology and its use in the architectural curriculum in India. The focus specifically is on 'The Impact of digital medium on design thinking in architectural design studios in India' wrt establishing a prescriptive framework for its formal inclusion in the undergraduate architectural design curriculum

Spearheading the initiative of introducing and mentoring the digital paradigm in architectural academia in India, I along with my team have taken the responsibility to conduct workshops/Lectures in Colleges of architecture across India to improve the comprehension of the Digital paradigm in Architecture

#### **EDUCATIONAL QUALIFICATION:**

B. Arch First class from Nagpur University

M. Arch (Digital architecture) with distinction from SPPU( Erstwhile Pune University)

#### **PROFESSIONAL EXPERIENCE: - 30 YEARS**

#### **ACADEMIC EXPERIENCE: - 26+ YEARS**

- Worked in the capacity as a visiting Faculty (1996-1999) and as full time faculty in NDMVPS Nashik from 1999- 2010
- Joined Dr. B. N College of Architecture Pune in 2010
- Presently working as a computational designer investigating the role of digital tools in academics and practice
- Soliciting and working on collaborative projects of different scales that involve algorithmic techniques like parametric system design, responsive facades, climatic simulation etc to aid design decisions

#### **ACADEMIC ACHIEVEMENTS: -**

- Worked in NDMVP'S College of architecture from 1996 till June 2010 in various capacities as a lecturer in the B. Arch program
- Presently co-ordinating the M.Arch Digital department in the capacity as an HOD of the department for the past 4 years. The main contribution in that role is to develop the academic curriculum of digital architecture in India and integrate the use of CAD/CAM processes for architectural design and production.

- Co-ordinating and expanding the Fabrication laboratory which has STL, 3 D printers, laser cutters and CNC machine. To productively engage digital fabrication technology in architectural research & design and construction through prototyping.
- Setting up India first Robotic laboratory for architecture at BNCA
- Appointed as a consultant on the panel of Council of Architecture India for integrating digital mediums in undergraduate course across India for 2015-2016. This included propagating the concept of parametric architecture at the undergraduate level as well at the professional level through conduction of workshops that are realized through software platforms and digital fabrication technologies.
- Convened and conducted an international conference(2 days ) and an International workshop(5 Days) 2nd to 8th Feb 2015,on the approach, tools and application of digital architecture in academia research and practice through a Workshop & Symposium titled : ‘Ventures in DIGITAL ARCHITECTURE \_ INDIA ‘ The objective was
  1. Exposure to Multiplicity of learning platforms extending learning beyond classrooms.
  2. Investigate changes in architectural discourse in relation to the increased significance of digital technology and its use in architectural curriculum.
- Organized an international workshop in collaboration with AA school London from 22nd July till 31st July 2016, titled ‘Biomorph’
- Organized a symposium titled GLOBALCONNECT-ENGAGE-EXCHANGE at BNCA which saw five international architects from UK, Cyprus, Thailand and India discussing about the digital design and research that’s is being pursued by them.

#### **Invited speaker on the following platforms**

1. Veda “Ventures in Digital architecture” an international conference ( Feb 2015)
2. Speaker at the Advait Badwe memorial lecture series Pune (Dec 2014)
3. Guest speaker on architects day at Parul Insititute Baroda( October 2015)
4. Mindspace Bangalore (November 2015)
5. AA visiting school ‘Biomorph’ Pune ( July 2016)
6. Speaker at Vivekanand University Jaipur on 21<sup>st</sup> (August 2017)
- 7. Speaker at the third UN academic impact forum Seoul Korea (Nov 2016).**
8. Speaker at First National Conference on Sustainability in Built Environment (NCSBE-2018) at Hyderabad on 4<sup>th</sup> September 2018
9. Speaker at the Design Plateau by Trimble on ‘Digital Paradigm in architecture’ in April 2020
10. Invited as a speaker in Arvindbhai Patel institute of environmental design Vadodra on 22<sup>nd</sup> July 2020

11. Speaker at the seminar on Digital Disruptions in EKCCOA Manjeri Kerala on 16<sup>th</sup> Oct 2020
12. Invitation as a Speaker at impending FDP in SRM Chennai titled "ARCHITECTURAL DESIGN STUDIO - EXPLORATION AND EXPERIMENTATION IN THE DESIGN PROCESS" on 13/09/2021
13. Speaker in the COA FDP programme hosted by SRM Chennai on 13<sup>th</sup> September 2021
14. Speaker at COA TRC KMEA Aluva Kerala in 2022
15. Invited speaker at Baramati college of architecture in Feb 2023
16. Invited speaker for teachers sensitization on Digital Disruption at MSU Baroda on May 11 2024
17. Invited speaker at the UNFOLD\_0.3 Conference on 31<sup>st</sup> August 2024
18. Invited speaker for COA TRC DBHCOA Mumbai in Jan 2025
19. Invited panel session member at IIA National Conference on Parametric architecture at Thane Mumbai in Jan 2025
20. Invited speaker for COA TRC DBHCOA Mumbai in Jan 2025
21. Invited as a speaker for a COA TRC in Mumbai DYPCOA in Feb 2025

#### **Workshops conducted till date other than the parent institute of BNCA**

1. Parametric workshop in Goa College of Architecture (March 2016)
2. Ramaiah college Bangalore for a two Day workshop (April 2017)
3. Mindspace Bangalore (November 2015)
4. Conducted an International workshop in Novisad Serbia on 14<sup>th</sup> and 15<sup>th</sup> 2018 on parametric design of Emergency Shelters based on origami for rehabilitation of flood victims under the UNAI impact chapter of BNCA
5. Conducted a three day workshop for D. Y Patil Kolhapur college of Architecture 27<sup>th</sup> 28<sup>th</sup> and 29<sup>th</sup> may 2022
6. Conducted a three day workshop for VGU Jaipur college of Architecture 14<sup>th</sup>, 15<sup>th</sup> and 16<sup>th</sup> of October 2022
7. Conducted a 5 day workshop for 50 students at CANS Nashik on Algorithmic Form Finding from 12<sup>th</sup> Feb to 16<sup>th</sup> Feb 2025

**Conducted more than 10 hands on workshops on parametric design, 3D modelling for students of B. Arch in my institute ie BNCA and 3 numbers of 16 weeks as sustained workshops for the Ty students at BNCA in 2023 and 2024**

The intention of the above said academic engagements is towards making professionals and students aware about the Digital paradigm in architectural pedagogy /profession.

#### **Training programme: -**

- Have undergone long (3 weeks) and short term teacher training programmes in JNTU in 1997 at JNTU Hyderabad.
- A 3 days residential training programme on teachers training at Maherawni Nashik conducted by the Abhivyakti media for development in 2000
- A week long training programme by NIASA Pune on accessibility in Universal design in the year 2010
- Have undergone a rigorous NITTT mentor training programme from NITTR Chennai from 26<sup>th</sup> till 30<sup>th</sup> July 2021

#### **Research Programmes Attended**

- One Week National Level Online Faculty Development Program on “Research Methodology: Data Collection Methods, Research Tools and Techniques” 9 th June – 15 th June 2020 Organized by Research and Development Cell, AISSMS’s IOIT, Pune
- Design Education @gen Z from 16<sup>th</sup> to 19April 2021 COA TRC
- Visual research methods in Architecture COA TRC 18-21<sup>st</sup> May 2021
- SPPU Statistics in Architectural Research programme Dctoral Orientation Research programme DROP from 16<sup>th</sup> August till 20<sup>th</sup> August 2021

#### **Academia Industry Research programs initiated and conducted**

- Led the team that researched and developed an inflatable prototypes and its two variants for Garware Technical Fibres in the year 2018-2019 that allowed the industry to develop a 5Mx5mx5m inflatable prototype that is used for Indian army personnel on the frontiers and also used as emergency shelters for flood and earthquake victims
- Have administratively facilitated the Self shading wall assembly with Wienerberger India towards the first ever research of 3d printed raw earth wall , a project that is under development and research this year ie 2022
- Administratively facilitating the first ever patent research that is initiated by Ar. Amar Shetty and BNCA as a co Applicant which is in due process and has received provisional certification for patent process this year in 2022

Invitation as an expert

- Was invited as an expert to the syllabus committee as an expert for developing M. Arch syllabus at SPPU
- Was invited as an expert in 2018 by the COA India to charter the policy guidelines of introducing Digital technologies in Architecture

### **MANUAL AND DIGITAL SKILLS**

- Sketching and model making.
- Proficiency in 3 D modelling ie Rhino and its algorithmic plugin of Grasshopper
- Analytical softwares within the gamut of VPL Grasshopper
- Knowledge of CAM processes like laser cutting, CNC milling, 3D printing
- Operational knowledge of KUKA KR 30-3

### **AI Investigator**

**Currently in the position of Investigating technical and pedagogical framework to map the progress of AI in architecture and the ways to leverage the same in architectural pedagogy**

**Currently pursuing PhD research in 'Effects of digital mediums on design thinking in Indian architectural studios'**

Thank you for having invested time in knowing about me.

Dhanashree Sardeshpande.

2/09/2024