

Aparna Harichandran

Joint Doctoral Degree Candidate, Building Automation Laboratory,
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EDUCATION

Program	Institution, Board/University	Year of completion
PhD in Civil Engineering	Indian Institute of Technology Madras, India & Curtin University, Perth, Australia	2021 (pursuing)
M. Tech in Structural Engineering	VIT University, Chennai, India	2016
B. Tech in Civil Engineering	Govt. Rajiv Gandhi Institute of Technology, Mahatma Gandhi University, Kerala, India	2012

SCHOLASTIC ACHIEVEMENTS

- Honourable mention for being the most active person, International Symposium on Automation and Robotics in Construction (ISARC), Japan (2020)
- Best presentation award⁺, International Conference on Civil & Building Engineering Informatics (ICCBEI), Japan (2019)
- Joint PhD Research scholarship from Curtin University, Australia (2017 - 2021)
- PhD scholarship from Ministry of Human Resource Department (MHRD), India (2016 - 2021)
- First rank and gold medal for M. Tech in Structural Engineering, VIT University, India (2016)
- Best research project award in M. Tech, VIT University, India (2015)
- School topper in class X and XII examinations and A+ grade for all subjects in class XII (2006, 2008)

PROJECTS

- Automated Construction Systems, funded by Department of Science & Technology, India (July 2016 - April 2019)
- Automated Construction Monitoring (Doctoral Research) (July 2016 - Present)
- Railway Bridge Monitoring, funded by Future Cities Lab, Singapore (December 2017 - January 2018)

PROFESSIONAL EXPERIENCE

- Post Graduate Engineering Consultant, L&T Infrastructure Engineering Ltd., Chennai, India (June - July 2016)
- Engineer, Shapoorji Pallonji & Co. Ltd., Chennai, India (August - September 2013)
- Graduate Engineer Trainee, Shapoorji Pallonji & Co. Ltd., Chennai, India (August 2012 - July 2013)

POSITIONS OF RESPONSIBILITY

- Teaching Assistant, IIT Madras (July 2016 - present)
- Event Coordinator & Speaker, National Workshop & Short-term course, IIT Madras (May 2018)

SKILLS

- Programming Languages: MATLAB, Python, Visual Basics, C, WinFELT, Arduino
- Software packages: MS Office, Auto CAD, STAAD.Pro, CATMAN, Autodesk Inventor, ANSYS, PRIMAVERA
- Languages known: English, Malayalam, Hindi, Tamil, Sanskrit

RELEVANT COURSE WORK & LABS

- Machine Learning
- Deep Learning Specialization
- CAD in Civil Engineering (Visual Basics)
- Construction Planning and Control
- Construction Methods & Equipment
- Construction Quality & Safety Management
- Construction Economics & Finance

SELECTED PUBLICATIONS

Journal Papers

- **Aparna Harichandran**, Benny Raphael and Abhijit Mukherjee. Development of Automated Top-Down Construction System for Low-rise Building Structures. International Journal of Industrialized Construction. 1, 22–33 (2020).
- Benny Raphael and **Aparna Harichandran**. Sensor Data Interpretation in Bridge Monitoring - A Case Study. Frontiers in Built Environment. 5, 148 (2020).

Conference Proceedings

- **Aparna Harichandran**, Benny Raphael and Abhijit Mukherjee. A Robust Framework for Identifying Automated Construction Operations. Proceedings of 37th ISARC, Japan, 473-480 (2020).
- **Aparna Harichandran**, Benny Raphael and Abhijit Mukherjee. ⁺Determination of Automated Construction Operations from Sensor Data **using** Machine Learning. Proceedings of 4th ICCBEI, Japan, 77–84 (2019).
- **Aparna Harichandran**, Benny Raphael and Abhijit Mukherjee. Identification of the Structural State in Automated Modular Construction. Proceedings of 36th ISARC, Canada, 187–193 (2019).
- **Aparna Harichandran**, Benny Raphael and Koshy Varghese. Inferring Construction Activities from Structural Responses using Support Vector Machines. Proceedings of 35th ISARC, Germany, 332–339 (2018).

EXTRA-CURRICULAR ACTIVITIES

- Student member, American Society of Civil Engineers (ASCE)
- Volunteer and member, IAARC @ IITM club
- Volunteer and member, The Art of Living Club at IITM and Western Australia
- Member, Hapkido Club IITM (8th Kup)
- Member, Curtin Karate Club, Western Australia (5th Kyu)

REFERENCES

Dr Benny Raphael

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