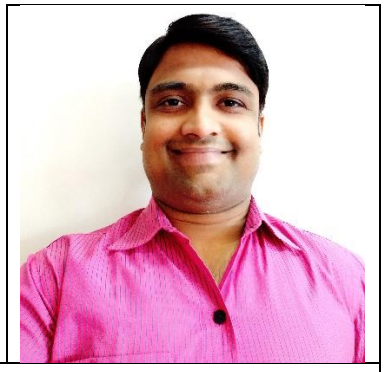
BIO-DATA



1.	**Name**	NILESH SONU VARKUTE
2.	**Designation**	**Assistant Professor**
3.	**Residential Address**	Khadakpada, kalyan, Thane, Mumbai.
4.	**Date of birth**	25th January
5.	**Total Experience**	**16 Years 5 Months (Till October 2025)**
i.	**Teaching**	16 years 1 Month
ii.	**Industrial**	4 Months
6.	**Qualifications:**	

Exam Passed	Year	Institution/ University	Branch/Specialization
M. E.	2012	SPCE/Mumbai	Mechanical Engineering (Thermal Engineering)
B. E	2006	SSJCOE/Mumbai	Mechanical Engineering
HSC	2001	GVKV/Maharashtra State board	Science
SSC	1999	GVKV/Maharashtra State board	-

7. Additional Qualification:

- **PET-2023** qualified (Ph.D Entrance Test – Valid till next PET exam).
- **PET-2016** qualified (Ph.D Entrance Test – Valid till next PET exam).
- **PET-2013** qualified (Ph.D Entrance Test – Valid for 3 years).

8. Employment Record:

Institution	Period (From - To)	Designation
Fr.C.R.I.T., Vashi, Navi Mumbai (University of Mumbai)	22/01/13 - Till date	Assistant Professor
A.C.P.C.E., Kharghar, Navi Mumbai (University of Mumbai)	03/09/12 – 19/01/13	Assistant Professor
S.S.J.C.O.E., Dombivli (University of Mumbai)	01/08/07 – 30/06/10	Lecturer
Voltas LTD. Pune	09/04/07 – 18/07/07	GET
S.S.J.C.O.E., Dombivli (University of Mumbai)	22/08/06 – 07/04/07	Lecturer

9. Undergraduate / Postgraduate Teaching Experience and Subjects Taught

Subjects Taught at UG level

Sr.No.	Name of Subject	Semester
1.	Thermodynamics	III
2.	Thermal Engineering	IV
3.	Heat and Mass Transfer	V
4.	Power Plant Engineering	VII
5.	Internal Combustion Engine	V
6.	Thermal and Fluid Power Engineering	VI
7.	Hydraulic Machinery	V
8.	Mechanical Utility systems	VII
9.	Renewable Energy Sources	VIII
10.	Non-conventional Energy Sources	VIII
11.	Engineering Mechanics	I
12.	Strength of Material	III
13.	Engineering Drawing	II

Research Grants:

Sr.No.	Name of Funding Organization	Type of Grant	Amount (Rs.)	Year	Name of Research Project
01	University of Mumbai	Minor research grant	40000	2019-20	Passive Thermal energy storage system
02	Fr. C. Rodrigues Institute of Technology, Vashi	Departmental grant	10000	2019-20	Active Thermal Energy system

Technical Collaboration / Lab Funding with Industries:

Sr.No.	Name of the Funding Organization	Type of Support	Amount (Rs.)	Year
01	Government of India	Seed Money	50000	2020-21
02	Crompton Greaves	Solar lamps	85000	2022-23

10. Professional Societies Fellowship / Membership

1. ISHRAE member: Membership No: 72951
2. NSFMFP life member: Membership No: LM 724
3. IAENG life member: Membership No.: 344109
4. Faculty adviser for Indian Green Building Council Institutional (IGBC) membership: Membership No.: IGBCIST250599

11. Achievements / Awards / Position (10)

1. Best paper Award in International Conference on Environmental Science and Technology (ICEST-2024) organized by SVNIT Surat.
2. Assistant Yog Teacher Training Certification" with grade A (11/12/2024).
3. Judge in National Level Poster Presentation organized by IEI-NMLC in association with IEI-FMSC (02/03/2024).
4. Appreciation as a faculty Adviser of ISHRAE FCRIT student Chapter (2023-24)

	5. Unnat Bharat Abhiyan (UBA) coordinator since Oct-2019: Scheme for technical development of rural areas, launched by government of India (MHRD) in collaboration with AICTE, Delhi. We have adopted 5 villages under the UBA scheme. 6. National Service Scheme (NSS), departmental coordinator (2019-20): It is an Indian government-sponsored public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. 7. Student Co-chair of ISHRAE Mumbai chapter (2020-21 and 2021-22). 8. Member of judging panel in student academic conference, Inter IIT Tech meet 2018 organized in IIT Bombay. 9. Faculty advisor for ISHRAE FCRIT student chapter since 2013. 10. Project Coordinator: Mechanical Engineering Department.
12.	**Projects guided in UG/PG level (18)** 1. Design and Development of integrated Solar and Wind powered renewable energy system. (2024-25) 2. Design and Development of Compact Air-conditioning system. (2024-25) 3. Design and Development of Thermal Energy Storage system. (2024-25) 4. Design and Development of Hydroponic system. (2023-24) 5. Design and Development of Aquaponics system. (2023-24, 2024-25) 6. Design and Development of Earth Tube Heat Exchanger. (2023-24) 7. Design and fabrication of Earth Air tunnel heat exchanger. (2022-23) 8. Design and fabrication of Ground coupled heat exchanger for cooling school buildings in rural area. (2021-22) 9. Design and fabrication of PCM based solar Cell cooling system. (2021-22) 10. Numerical investigation of effect of number of vortex generators placed on inclined surface with different orientations. (Ongoing) 11. Design and fabrication of Thermal Energy storage system by using an active (nanomaterial and PCM) methods. (2019-20, 2020-21) 12. Design and fabrication of Thermal Energy storage system by using passive methods. (2019-20, 2020-21) 13. Experimental and Computational Study of Phase Change Material Based Shell and Tube Heat Exchanger for Energy Storage. (2018-19) 14. Experimental setup of Hybrid Cooling of Multi-Junction Concentrated Photovoltaic Cells. (2016-17 and 2017-18) 15. Design and fabrication of fully automatic solar tracking system. (2014-15 and 2015-16) 16. Design and fabrication of a Peltier operated portable air cooling system. (2015-16) 17. Numerical Investigation of performance of Brake Shoe Liner to Fabricate and test Modified Design. (2014-15) 18. Thermal Analysis of Earth Air tube heat exchanger by using experimental setup and simulation. (2013-14)
13.	**Short Term Training Programmes attended (26)** 1. 300 hours (24/10/2024 to 11/12/2024) Assistant Yoga Teacher Training Certification (AYTTC) workshop organised by Patanjali Yog Samiti Mumbai under Patanjali Yogpeeth trust. 2. One week FDP (08/07/2024 to 15/07/2024) “Emerging Concepts in HVAC&R”, organised by ISHRAE and KIIT Bhubaneshwar. 3. Skill Development Program (11/01/2024 to 16/04/2024) “Energy Literacy Training”, Organized by Swayam and Energy Swaraj Foundation, IIT Bombay. 4. Six Days (29/01/2024 to 03/02/2024) Industrial training program “Hand-on Training on Power Plant Familiarization” organized by Adani Dahanu Thermal Power Station.

5. Two week (21/10/2023 to 31/10/2023) FDP on “Astang Yoga” organized by Fr. C. Rodrigues Institute of Technology, Vashi.
6. Two Days (18/08/2023 to 19/08/2023) training program on “Applied Psychometrics and Carrier method heat load calculation” organized by ISHRAE Thane Chapter.
7. Seven Days (13/10/2022 to 20/10/2022) “Yoga session” organized by Fr. C. Rodrigues Institute of Technology, Vashi.
8. One week (28/06/2021 to 02/07/2021) online FDP on “Inculcating Universal Human Values in Technical Education” organized by All India Council for Technical Education (AICTE).
9. Three days (18/12/2020 to 20/12/2020) national level online workshop on “Latex” organized by Amity University Maharashtra.
10. One week (2/11/2020 to 6/11/2020) faculty development program on “Electric vehicles” organized by AICTE Training and Learning (ATAL) Academy.
11. Two weeks (28/10/2020 to 10/11/2020) workshop on “Energy simulation and CFD analysis in buildings” organized by Easwari engineering college, Ramapuram, Chennai in association with ISHRAE.
12. One Week (16/12/2019 - 21/12/2019) ISTE approved Short term training program on “Advances in Heating, Ventilation, Air-Conditioning and Refrigeration (HVAC & R)” organized by Lokmanya Tilak college of Engineering, Koparkhairane in association with ISHRAE (Mumbai Chapter).
13. Three days (06/07/2019, 20/07/2019 and 14/09/2019) training program on “Measurement, Control and virtual instrumentation” organized by Fr. C. Rodrigues Institute of Technology, Vashi.
14. One Week (25/06/2019 - 29/06/2019) Hands on Training Program on “ANSYS Mechanical and CFD” organized by Fr. C. Rodrigues Institute of Technology, Vashi.
15. One week (17/06/2019 - 21/06/2019) short term course on “Solar thermal technologies for process heat and power” organized by IIT Bombay.
16. Three days (05/12/2017 to 07/12/2017) workshop on “ANSYS skill development program” conducted by VJTI in association with Fr. C. Rodrigues Institute of Technology.
17. One week (29/05/2017 to 02/06/2017) short term training program on “First course in Computational Fluid Dynamics” conducted by IIT Bombay.
18. One week (23/02/2017 to 28/02/2017) short term training program on “Fluid Flow and Computational Methods” organized by V.J.T.I., Matunga, Mumbai.
19. One week (30/06/2014 to 04/07/2014) short term training program on “Introduction to PLM” organized by Siemens.
20. One week (07/05/2014 to 11/05/2014) short term training program on “Advanced Combustion, Emissions and Modeling Aspects” organized by IIT Kanpur
21. One week (09/12/2013 to 13/12/2013) QIP short term course on “Changing Scenario in Energy and Environment” organized by NIT Calicut.
22. One week (24/06/2013 to 28/06/2013) QIP Short Term Course on “Challenges in Measurement of single phase and Two Phase flow – A recent Trends” organized by IIT Roorkee.
23. Two weeks (29/11/2011 to 10/12/2011) ISTE workshop on “Heat Transfer” organized by IIT Bombay.
24. Two weeks (04/07/2011 to 15/07/2011) “Computational Fluid Dynamics” workshop in Sardar Patel College of Engineering, Andheri (W).
25. Two days (11/02/2011 & 12/02/2011) Technical seminar on HVAC “ACRESERVE 2011” organized by ISHRAE in Mumbai.
26. One-week short term training program on “Integrate, Create, Manufacture & Manage Digitally (ICMMD-2010)” in SVNIT, Surat (Jan 2010).

14.	**List of Papers Published in National and International Conferences (15)**

1. Prathamesh Satish Patil, Kartikeya Prafulla Phale, Soham Ravindra Nevgi, Parth Vinod Trivedi, Pradeep Kumawat, Rejoy Roy George and **Nilesh Varkute**, "Automating Sustainable Growth and Revolutionizing Hydroponic Farming", in Proc. of International Conference on Environmental Science and Technology (ICEST-2024), Surat, India, December 19-21, 2024.
2. **Nilesh Varkute**, Prathamesh Patil, Pradeep Kumawat , Rejoy Roy George, Kartikeya Phale, "Design and fabrication of Automatic hydraulic System", in Proc. Of International Conference on Recent Advances in Design and Manufacturing (RADM-2024), Patna, India, June 28-30, 2024.
3. Shamim Pathan, Badal Kudachi, **Nilesh Varkute**, Apeksha Kini, Reshma Hadawale, Chinmayee Mithagri, Rahul Sitha, "Experimental Study of Solar Water Heater System Using Phase Change Material", in Proc. Of International Conference on Technologies for Energy, Agriculture and Healthcare (ICTEAH-2024), Mumbai, India, April 15-16, 2024.
4. **Nilesh Varkute**, Prathamesh Patil, Pradeep Kumawat , Rejoy Roy George, Kartikeya Phale, "Design and fabrication of Automatic hydraulic System", in Proc. Of International Conference on Recent Advances in Design and Manufacturing (RADM-2024), Patna, India, June 28-30, 2024.
5. Shamim Pathan, Badal Kudachi, **Nilesh Varkute,** Apeksha Kini, Reshma Hadawale, Chinmayee Mithagri, Rahul Sitha, "Experimental Study of Solar Water Heater System Using Phase Change Material", in Proc. Of International Conference on Technologies for Energy, Agriculture and Healthcare (ICTEAH-2024), Mumbai, India, April 15-16, 2024.
6. Badal Kudachi, Nilesh Varkute, Roshin Saviour Robinson, Parth Sachin Sawant, Shaikh Adnan Ahmed and Sanchart Raina, “Experimental Study of Various Properties of Nano Enhanced Phase Change Materials”, in Proc. International Conference on Sustainability: Integrated and Scientific Approach, Mumbai, India, Aug. 4-6, 2022.
7. Badal Kudachi, Bipin Mashilkar, Nilesh Varkute, Omkar Mawalankar, Ashish Shanbhag, Shalom Gaikwad and Antony Maria Camillus, “Experimental Study of PCM Based Latent Heat Thermal Energy Storage System Using Fins”, in Proc. 8th International Conference on Advances in Energy Research, Bombay, India, July 7-9, 2022.
8. Nilesh Varkute, Badal Kudachi, Shardul Kachare, Chintan Mange, Jigar Gandhi, Harish Menon, “Thermal Analysis of Earth Tube Heat Exchanger Using Experimental Setup and Simulation”, 2nd International Congress on Advances in Mechanical and system Engineering (CAMSE – 2021), National Institute of Technology Jalandhar, Panjab, INDIA, 17th July, 2021 – 19th July, 2021.
9. Nilesh Varkute, Badal Kudachi, Bipin Mashilkar, Priyan Kamble, Anmol Rane, Aishwarya Harad, Glen Rebello, “Experimental and Numerical Investigation of Latent Heat Based Energy Storage System Using Nano Enhanced Phase Change Material”, 2nd International Congress on Advances in Mechanical and system Engineering (CAMSE – 2021), National Institute of Technology Jalandhar, Punjab, INDIA, 17th July, 2021 – 19th July, 2021.
10. Badal Kudachi, Nilesh Varkute, Bipin Mashilkar, Srikant Guthula, Prabhav Jayaprakash, Alex Aaron, Simran Joy, “Experimental and Computational Study of Phase Change Material Based Shell and Tube Heat Exchanger for Energy Storage”, 2nd International Mechanical Engineering Congress – 2019, National Institute of Technology Tiruchirappalli, Tamil Nadu, INDIA, 29th November, 2019 – 1st December, 2019.
11. Pallavi Khaire, Libin Kaleeckal, Abrar Upadhye, Nilesh Varkute, Girish Dalvi, “Condition monitoring of centrifugal pump using vibration analysis and artificial

	intelligence', Souvenir cum book of abstract in association with springer 6th international conference on production and industrial engineering, National Institute of Technology Jalandhar, Panjab, INDIA, 8-10 June, 2019. 12. Nilesh Varkute, Deepak Devasagayam, Atul Shenoy, Simon Fernandes, Pranav Chaulkar, Samuel Cerejo, Aashish Yadav, "Design, fabrication and testing of cooling system for Multi-junction CPV cells", International Conference on Nascent Technologies in Engineering (ICNTE), FCRIT, Vashi, Navi Mumbai, INDIA, 4-5 January, 2019. Proceedings were published in IEEE explore digital library, DOI: 10.1109/ICNTE44896.2019.8945867. 13. Pallavi Khaire, Nathan Dmello, Ronald Joseph, Justin Jolly, Nilesh Varkute, "Generation of Energy from Tides", International Conference on Frontiers in Engineering, Applied Sciences and Technology (FEAST 2018), National Institute of Technology Tiruchirappalli, INDIA, 27 April, 2018. 14. Nilesh Varkute, Bipin Mashilkar, Nishaank Parab, Yogesh Lad, Rajat Pandita and Abhishek Markandeya, "Design and fabrication of fully automatic solar tracking system", Proceedings of International conference on emerging trends in engineering innovation and technology management, volume - II, Himachal Pradesh, INDIA, 16-18 December, 2017. 15. Nilesh Varkute, Febin Fransis, Salvius Kinny, Rishikesh Sawant and Nikhil Ramchandran, "Hybrid Cooling of Multijunction concentrated Photovoltaic Cell", Proceedings of WRFER International conference, Pune, INDIA, 7 May, 2017.
15.	**Books/Reports/General articles etc.** 1. Prathamesh Satish Patil, Kartikeya Prafulla Phale, Soham Ravindra Nevgi, Parth Vinod Trivedi, Pradeep Kumawat, Rejoy Roy George and Nilesh Varkute, "Automating Sustainable Growth and Revolutionizing Hydroponic Farming", Lecture Notes in Civil Engineering book series, Sustainable Waste Management Practices, Volume 2, 26/10/2025. https://doi.org/10.1007/978-981-95-1442-7_2 2. Badal Kudachi, Bipin Mashilkar, Nilesh Varkute, Omkar Mawalankar, Ashish Shanbhag, Shalom Gaikwad and Antony Maria Camillus, "Experimental Study of PCM Based Latent Heat Thermal Energy Storage System Using Fins", Green Energy and Technology book series, Advances in Clean Energy and Sustainability, 22/05/2023. https://doi.org/10.1007/978-981-99-2279-6_70 3. Nilesh Varkute, Badal Kudachi, Shardul Kachare, Chintan Mange, Jigar Gandhi, Harish Menon, "Thermal Analysis of Earth Tube Heat Exchanger Using Experimental Setup and Simulation", Lecture Notes in Mechanical Engineering, book chapter in Recent Advances in Mechanical Engineering, Springer Nature, 09/09/2022. https://doi.org/10.1007/978-981-19-2188-9_41 4. Nilesh Varkute, Badal Kudachi, Bipin Mashilkar, Priyan Kamble, Anmol Rane, Aishwarya Harad, Glen Rebello, "Experimental and Numerical Investigation of Latent Heat Based Energy Storage System Using Nano Enhanced Phase Change Material", Lecture Notes in Mechanical Engineering book chapter, Recent Advances in Mechanical Engineering, Springer Nature, 09/09/2022. https://doi.org/10.1007/978-981-19-2188-9_51
16.	**List of Journal Papers Published** 1. Badal Kudachi, Nilesh Varkute, Bipin Mashilkar, Srikant Guthula, Prabhav Jayaprakash, Alex Aaron, Simran Joy, "Experimental and Computational Study of Phase Change Material Based Shell and Tube Heat Exchanger for Energy Storage", Materialstoday procedings, Elevier, 26/05/2021. https://doi.org/10.1016/j.matpr.2021.05.295 2. Nilesh Varkute, Febin Francis, Salvius Kinny, Rishikesh Sawant,Nikhil Ravichandran, "Hybrid Cooling of Multi-junction Concentrated Photovoltaic Cells" in IJMPE, Volume 5, Issue 7, Sept 2017, pp. 44 to 49.

	3. Nilesh Varkute, Bipin B.Mashilkar, Pallavi Khaire and Kamlesh Sasane, "Numerical simulation of heat transfer augmentation in a rectangular solar air heater duct" in IRJET, Volume 3, Issue 11, November 2016, pp. 114 to 118. 4. Nilesh Varkute, Akshay Chalke, Deepak Ailani, Ritesh Gogade and Ajay Babaria, "Design and fabrication of a Peltier operated portable air cooling system" in IJERT, Volume 3, Issue 3, March 2016, pp. 1801 to 1805. 5. Nilesh Varkute, Bipin Mashilkar, Sanjay Rukhande, Akshay Vengal, Vishal Madhavi, Mayur Karche and Amar Ingle, "Experimentation and Testing of an OP-AMP operated Solar Tracking Mechanism" in IRJET, Volume 2, Issue 7, October 2015, pp. 781 to 784. 6. Nilesh Varkute, Aditya Vaishampayan, Ninad Sonje, Prasad Patil and Kunal Attarde, "Numerical Investigation of performance of Brake Shoe Liner to Fabricate and test Modified Design" in IJERT, Volume 4, Issue 4, April 2015, pp. 400 to 404. 7. Bipin B. Mashilkar and Nilesh Varkute "Numerical Investigation of Heat Transfer Augmentation in a Rectangular Solar Air Heater Duct" in IJERT, Volume 3, Issue 10, October 2014, pp. 1245 to 1248. 8. Kiran Prakashrao Deshmukh, Manisha Jayprakash Dhanokar and Nilesh Sonu Varkute, T.R.B. Sanjai Kumar, "Numerical simulation of enhancement of heat exchanger in a tube with and without rod helical tape swirl generators" in IJMET, Volume 5, Issue 6, June 2014, pp. 01 to 13. Journal Impact Factor: 7.5377. 9. Nilesh S. Varkute and R. S. Maurya, "CFD Simulation in Township Planning – A Case Study" has indexed in ANED (American National Engineering Database) with an article ANED-DDL (Digital Data link) number 03.3005/033065072 (www.aned.us). **10.** Nilesh S. Varkute and R. S. Maurya, "CFD Simulation in Township Planning – A Case Study" in International Journal of Computational Engineering Research (IJCER), Volume 3, Issue 3, March 2013, pp. 65 to 72.
17.	**Invited Lectures in FDP/ STTP** 1. Invited talk in STTP, Tools and Methods of Research and Publication" on 10/07/2024 organised by Fr. C. Rodrigues Institute of Technology, Vashi. 2. Speaker in STTP on "Tools and Methods of Research and Publication" on 03/01/2024 organised by Fr. C. Rodrigues Institute of Technology, Vashi. 3. Speaker in STTP on "Tools and Methods of Research and Publication" on 03/01/2023 organised by Fr. C. Rodrigues Institute of Technology, Vashi.
18.	**International Conference Technical Program Committee Member / Reviewer** 1. Research paper Reviewer in Journal of Green Engineering (Scopus indexed). 2. Research paper Reviewer in IEEE xplore (Scopus indexed). 3. Registration committee member in INTERNATIONAL CONFERENCE on VIBRATION ENGINEERING, SCIENCE and TECHNOLOGY (INVEST-22) 4. Publicity committee member in IEEE sponsored, International Conference on Nascent Technologies in Engineering (ICNTE-2019). 5. Member of judging panel in student academic conference, Inter IIT Tech meet 2018 organized in IIT Bombay. 6. Technical committee member in IEEE sponsored, International Conference on Nascent Technologies in Engineering (ICNTE-2017). 7. Technical committee member in IEEE sponsored, International Conference on Nascent Technologies in Engineering (ICNTE-2015).
19.	**Patents** 1. Patent on "Velocity Multiplier in wind turbine" is under process.