Ramkumar D

PhD in Civil Engineering
Indian Institute of Technology Bombay, India
Specialization: Water Resources & Environment
Engineering

Nationality: Indian
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Education	University	Institute	Year	CPI
PhD	Indian Institute of Technology Bombay	Indian Institute of Technology Bombay	2019	9.73 / 10
Post Graduation	Anna University	Mepco Schlenk Engineering college Research Studentship: IIT-Bombay	2018	9.52 / 10
Undergraduate: Civil Engineering	Anna University	Thiagarajar College of Engineering	2016	8.90 / 10
Diploma in Civil Engineering	Directorate of Technical Education	P.A.C.Ramasamy Raja Polytechnic College	2013	94.05 %
SSLC	State Board	A K D D Boys high school	2010	93.40 %

AREAS OF INTEREST

Artificial Intelligence | Wastewater quality modelling | Machine Learning Modelling |Designing wastewater treatment systems | Socio-Economic Spillover studies| City-wide sanitation Planning | STPs/DSTPs/ FSTPs |

RESEARCH EXPERIENCE

PhD. Research work: (2019 – Ongoing)

MODELLING WASTEWATER TREATMENT FACILITIES BY INTEGRATING CHAOTIC ANALYSIS AND HYBRID ARTIFICIAL INTELLIGENCE TECHNIQUES *(funded by Maharashtra Pollution Control Board & Environment Impact Assessment Authority of India)*

Under the guidance of **Prof.V.Jothiprakash**

Highlights of Research work:

➢ To model the performance of STPs in Maharashtra, India, using neural networks integrated with chaotic analysis.
➢ To model quality parameters from the embedding dimension of chaotic analysis using neural networks such as Artificial neural networks, recurrent neural networks, and Long short term memory.
➢ To study the Socio-Economic spillover due to STPs interventions in Maharashtra state by interviewing officials of municipal corporations, STP workers, and nearby residents of STPs.

Postgraduation Research work: (2017 – 2018)

REJUVENATION OF TEMPLE TANK INTO RAINWATER HARVESTING TANK *(funded by Industrial Research Consultancy Centre, IIT Bombay)*

Under the guidance of **Prof.V.Jothiprakash**

Highlights of Research work:

➢ Comprehensive literature review on Temple tanks for their shape and size.
➢ To study the rainfall-runoff analysis over 182 temples and its relation to temple tank dimension.
➢ To model temple tank area with variables such as temple area, deities dimension, and runoff.

Publications and Conferences

- Ramkumar, D., Jothiprakash, V., and Patil, B. N. (2022). Performance assessment of sewage treatment plants using compliance index. *Journal of Water, Sanitation and Hygiene for Development, 12 (6), 485-497.*
- Ramkumar.D, V. Jothiprakash. Behavioural analysis of wastewater quality parameters in Sanpada Wastewater treatment plant using False nearest neighbour a chaotic approach. (Communicated)
- Ramkumar.D, V. Jothiprakash. Modelling Wastewater quality parameters of Sewage treatment plant by integrating chaotic embedding dimensions and artificial neural networks. (In Preparation)

Conference:

- Ramkumar.D, V. Jothiprakash, Simulating Crude & Treated BOD of Wastewater treatment facility using Hybrid time series modelling. IWA World Water Congress & Exhibition, Copenhagen, Denmark, September 11- 15, 2022.
- Ramkumar.D, V. Jothiprakash, Temple Tank as Rainwater harvesting structure- a case study on Thayumanavar temple tank. National Seminar on Sustainable Technologies for Intelligent Water and Environmental Management (STIWEM-2018), Department of Civil Engineering, Annamalai University, Chidambaram, Tamil Nadu, 22nd & 23rd, March 2018, pp 1-6.

WORK EXPERIENCE

Designation: Cost Auditing Engineer (Aug 2018 – June 2019)
Company: Sobha Limited, Bangalore, India
Job description:

- To lead a team of 10 people to prepare a project planning schedule and estimate resource requirements for the Pan-India projects.
- To forecast and plan various projects for their construction cost and expected project revenue.
- To ensure project site across India reaches funds under various heads on time for seamless running of projects.
- To visit sites to audit bills.

GRANT & AWARDS RECEIVED

- IRCC research studentship grant- IIT Bombay
- Awarded grant to carry research and knowledge sharing conclave in AAETI campus, by Centre for Science and Environment, Delhi.
- Best Outgoing Student- Postgraduate (Dept of Civil Engineering)
- First Rank in Dept of Civil Engineering Postgraduate- Gold medal (Both First and Second year)
- First Rank & Best Structural Engineering student Award (During Diploma)
- Rotary Youth Leadership Award (Awarded as Mr RYLA)

SEMINAR & PRESENTATION

Formwork & Scaffolding	At L&T ECC, Chennai worked in the formwork designing team and designed various types of formwork. (3-week internship).
	Conducted a one-day seminar on designing formworks (both manually and using software) on MSEC, Sivakasi.
Bubble Deck Slab	Bubble deck slab is an emerging technology in the field of Civil Engineering for mass concreting. A knowledge-sharing seminar is conducted for undergraduate students while pursuing post-graduation.

SKILLS/ RELEVANT CERTIFICATIONS

- ➢ Software: R | Python | Origin | MATLAB | AutoCAD | MS Office | STAAD pro
- ➢ Certification courses:
  - Achieving Sustainable Development Goals on Water and Sanitation – **Asian Development Bank Institute** (E-learning).
  - Planning & Design of Sanitation Systems and Technologies – **École Polytechnique Fédérale de Lausanne** (E-Learning).
  - Advanced Laboratory Training in Fecal Sludge Management- Learned sampling and testing methods of fecal sludge (Grant provided by CSE, India).
  - Basics of Decentralized wastewater treatment plant design and Local Reuse. (CSE online training program)
  - Essential Chemistry for Wastewater Treatment and Basic Statistics for sample analysis for Environment Engineers. (STTP conducted by VNIT, India)
  - Introduction to Probability and Data with R – **Duke University** (E-Learning).
  - Machine learning A-Z: Hands-on Practice through R and Python.
  - Deep learning: Hands-on Artificial Neural Network.

POSITION AND RESPONSIBILITY

- ➢ Mess Secretary and Mess Councilor of Hostel 1. (2019 -2020)
- ➢ Maintenance Councilor of Hostel 18(2020 – 2021)
- ➢ Elected General Secretary of Hostel 18 (2022 – ongoing)
- ➢ Awarded with FLY (Finding the leader in you) Scholar position by CMI (CMI – Competitiveness Mindset Institute)
- ➢ Selected as organizational colour for best performance in hostel affairs.

I, Ramkumar.D, hereby confirm that the information given above is true to my knowledge.

Place: Mumbai, Maharashtra   Signature: Ramkumar D (17/11/2022) _____

Date: 17/11/2022   (Ramkumar.D)