

DR. RIDDICK KAKATI

Assistant Professor, Department of Civil Engineering

Jorhat Engineering College

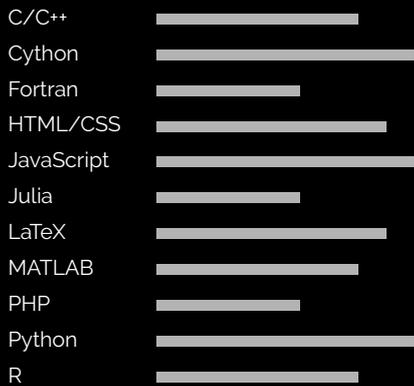
<https://riddickkakati.github.io> | <https://linkedin.com/in/riddick-kakati>

PERSONAL INFORMATION

Male
 Indian
 July 1993
 Former Ph.D. and Postdoctoral Researcher
 Jorhat, Assam, India

HIGHLIGHTS

Programming



API Development



Cloud Services



Machine Learning



Version Control Systems



EDUCATION

- 2018-2023 **Doctor of Philosophy**
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI · Water Resources Engineering
Thesis: Inland water episodic event management using opensource geospatial and numerical modelling
- 2016-2018 **Master of Technology**
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI · Water Resources Engineering (CGPA: 8.8/10)
Thesis: Numerical and experimental modelling of hybrid river training works for stabilizing braided rivers
- 2011-2015 **Bachelor of Engineering**
GAUHATI UNIVERSITY · Civil Engineering (78.3%)
Thesis: Design of a four storeyed R.C.C. residential building



OVERALL RESEARCH EXPERIENCE

- 2023-2024 **Post Doctoral Researcher**
UNIVERSITY OF TRENTO · Project CARITRO
Italy (October 2023-October 2024)
- 2022-2023 **Guest Scientist**
GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN · NAMASTE+ Fellowship
Germany (October 2022-February 2023)
- 2016-2023 **Masters and Ph.D. Scholar**
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI · Civil Engineering
India (July 2016-August 2023)



FULL STACK AND WEB PROJECTS

- 2023-2024 **Aqualite Engine**
FORECASTING, MONITORING AND MACHINE LEARNING ONLINE CLOUD COMPUTING MODEL · iOS and android app production ready
<https://youtu.be/Wz9TVSZ7Ze0?si=KzullUX4R6hGUsjj>
- 2020-2022 **AEMS Google Earth Engine App**
MONITORING AND MACHINE LEARNING ONLINE CLOUD COMPUTING WATER QUALITY MODEL · web-GIS ready
https://youtu.be/LAlIx9OIdDy?si=LWl38M_1SA6EjSmV
- 2021-2022 **Personal Homepage**
PORTFOLIO WEBSITE · Github pages
HTML/CSS/Javascript web development



Software & Models

ARC-GIS	████████████████████
AutoCAD	████████████████████
CCHE3D	██████████████████
Flow3D	██████████████
HEC-RAS	████████████████████
MS Office	████████████████████████████
OpenFOAM	██████████████████
QGIS	████████████████████

Development platforms



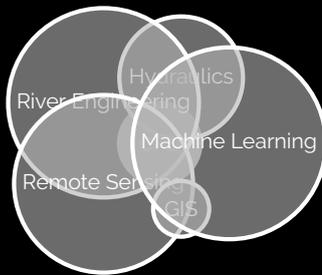
Laboratory/field equipments used

ADV and ADCP (Nortek/Sontek)

Field Spectroradiometer and Spectrophotometer

Total Station

Primary Research Interests



Certified courses

B.E./B.Tech Civil Engineering courses

Advanced Remote Sensing

Surface Water Hydrology

Advanced Hydraulic Engineering

Advanced Fluid Mechanics

Numerical Methods

Principles of Water Quality and Environmental Impact Assessment

Subsurface Hydrology

River Engineering

Water Resources Systems Analysis, Planning and Management

Computational Methods in Hydraulics and Environmental Engineering

React and Django Full Stack web app, backend API, mobile apps

React and Django Full Stack Advanced

Machine Learning A-Z: AI, Python, and R

Google Data Analytics

Google Advanced Data Analytics

AWARDS AND FELLOWSHIPS

- 2022-2023** Selected for NAMASTE+ (BMBF and DAAD) fellowship
- 2016-2023** MHRD GATE Scholarship and Assam Chief Minister Financial Assistance Scheme for Meritorious Students
- 2014** Second Prize, Assam Water Conference and Best Presenter Award, North East Students Geo-congress

PUBLICATIONS

- *Development of a Fully Automated Atmospheric Correction Technique for Applications in Google Earth Engine*. Recent Development in River Corridor Management, Lecture Notes in Civil Engineering, vol. 376. Springer, Singapore (2023)
- *Three-dimensional hydrodynamic modeling of permeable and impermeable river training works using CCHE 3D model and laboratory experiments*, Recent Trends in River Corridor Management, Lecture Notes in Civil Engineering, vol. 229. Springer, Singapore (2022)
- *3D Modelling of Hybrid River Training Works*, River Hydraulics, Water Science and Technology Library, vol. 110. Springer (2022)
- *Exploring the Influence of Vegetated Mid-Channel Bar on Flow and Turbulence in Bifurcated Channels: An Experimental Approach*, Advances in Water Resources (2024)
- *Experimental and Numerical Investigation of Hybrid River Training Works using OpenFOAM*, Water Resources Management (2022)
- *A laboratory study of flow characteristics in natural heterogeneous vegetation patches under submerged conditions*, Advances in Water Resources (2019)
- **PICO**: A monitoring-forecasting tool for advancing surface water quality management in lakes, reservoirs and major rivers, European Geophysical Union 2024 General Assembly
- **Poster**: Performance of natural mangrove structure in downstream velocity reduction as compared to engineered porcupine and geobag structure using OpenFOAM, European Geophysical Union 2023 General Assembly
- **Poster**: Cloud based prediction of water depths in the Brahmaputra River using optical imagery from Sentinel 2, American Geophysical Union 2022 Fall Meeting
- **Poster**: Real time mapping of chlorophyll-a in the Brahmaputra river using Google Earth Engine, American Geophysical Union 2021 Fall Meeting
- **Oral**: Development of a fully automated atmospheric correction technique for applications in Google Earth Engine, International Conference on River Corridor Research and Management (2022)
- **Oral**: Three-dimensional hydrodynamic modelling of permeable and impermeable river training works using CCHE 3D model and laboratory experiments, International Conference on River Corridor Research and Management (2021)

TEACHING AND RESEARCH CONTRIBUTIONS

- 2025** Developed pswarm: a python module for particle swarm optimization
- 2023** Reviewer for Nature Scientific Reports, Water Resources Management, Journal of Environmental Management
- 2022** Teaching Assistant, GIAN Course on Spatial Data Science in Disaster Management (Time: 0:55:00)
- 2020-2022** Teaching Assistant, NPTEL Fluid Mechanics and River Engineering
- 2022** Member, Organizing Committee, International Conference on River Corridor Research and Management
- 2021** Member, Organizing Committee, National Workshop on Cloud Computing and Hydro-Ecological Modelling
- 2021** Submitted an OpenFOAM Case Study Project at FOSSEE, IIT Bombay

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