

# Manikandan Gopakumar

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## Education

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### Leibniz University Hannover, Germany

*Sept 2024 – March 2025*

*M.Tech Project (Exchange Scholar)*

- Part of DAAD-KOSPIE scholarship
- **Coursework:** Machine Learning for Material and Structural Mechanics (Grade: 1,0), A1.1 level German Language
- **Publication:** Abedulgader Baktheer, **Manikandan Gopakumar**, Ghandi Kenjo and Fadi Aldakheel. Multiphysics phase-field modeling framework for corrosion-fatigue-induced degradation in reinforced concrete (*To be submitted*)

### Indian Institute of Technology, Madras

*July 2023 – May 2025*

*M.Tech in Structural Engineering*

- GPA: 8.95/10
- **Coursework:** Advanced Mechanics of Structures, Finite Element Analysis, Experimental Techniques, Structural Optimization, Structural Reliability, Advanced Theory and Design of Concrete Structures, Advanced Design of Metal Structures
- **Dissertation:** Electro-chemo-mechanical modeling of fatigue and corrosion in reinforced concrete using the phase-field method for fracture. Implemented 2D and 3D reactive-transport, damage-enhanced diffusivity and phase-field cohesive zone model in FEniCS.

### Indian Institute of Technology, Madras

*July 2019 – May 2023*

*B.Tech in Civil Engineering*

- GPA: 8.04/10
- **Coursework:** Mechanics of Materials, Structural Analysis, Structural Engineering Laboratory, Concrete Technology, Design of Concrete Structural Systems, Structural Design of Foundations, Basic Design of Steel Structures

## Scholarships

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### DAAD - Combined Study and Practice Stays for Engineers from Developing Countries (KOSPIE)

- Selected among top Indian Institutes of Technology students for academic and research merit, to pursue part of my M.Tech project at the Leibniz University Hannover in Germany.
- Conducted collaborative research in fatigue-corrosion of reinforced concrete at the Institute of Mechanics and Computational Mechanics (IBNM) under guidance of Prof. Dr.-Ing. habil. Fadi Aldakheel and Dr.-Ing. Abedulgader Baktheer

## Scholastic achievements

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- Secured national rank of 3579 among 1.1 million candidates in Joint Entrance Examination(Main) 2019
- Secured national rank of 4690 among 170,000 candidates in Joint Entrance Examination(Advanced) 2019
- Secured state rank of 138 in Kerala Engineering Entrance Examination competing with 73000 candidates

## Skills

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**Technologies:** FEniCS, ABAQUS, MATLAB, Python