

# Kautuk Raj

Computer Science and Engineering  
International Institute of Information Technology, Bangalore

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## Academic Details

Year	Degree	Institute	CGPA / %
2019-2024	Integrated M.Tech in Computer Science and Engineering	International Institute of Information Technology, Bangalore	3.77/4
2019	Class XII, ISC	Narbheram Hansraj School, Jamshedpur	97%
2017	Class X, ICSE	Rajendra Vidyalaya, Jamshedpur	97%

## Relevant Courses

- **Computer Science:**  
Data Structures and Algorithms, Computer Architecture, Computer Networks, Design and Analysis of Algorithms, Database Systems, Software Engineering, Theory of Computation, Machine Learning, Cloud Computing, Cybersecurity, Multi-Agent Systems, Operating Systems, Programming Languages, Software Architecture, Software Testing, Software Production Engineering
- **Mathematics:**  
Calculus, Linear Algebra, Differential Equations, Probability and Statistics, Mathematics for Machine Learning

## Internships

- **Tata Steel, Jamshedpur** (May - July, 2021)  
Mentor: Rahul Kumar
  - Implemented a machine learning model for prediction of the late arrival of an employee based on several parameters like house location, the vehicle used, etc.
- **Center for Sustainable Mobility, IIIT Delhi** (August, 2021 - December, 2021)  
Mentor: Prof. Anuj Grover
  - Worked on the research problem of building low-cost GPS modules for e-rickshaws and auto-rickshaws to improve last-mile connectivity in Delhi, India.
  - Implemented a real-time operating system for the GPS modules to function.
- **Scalable Data Science Lab, IIIT Bangalore** (May, 2022 - present)  
Mentor: Prof. Vinu E Venugopal
  - Working on Reason-AIR, a project in collaboration with the University of Luxembourg and IIIT Delhi, intending to develop a distributed high-performance reasoning system for Description Logic (DL) ontologies. Specifically, developing a baseline system integrating Apache Spark and the Owlready2 API.
  - Learnt and gained experience in the areas of ontology, reasoning, stream processing as well as big data applications of these using Apache Spark.
- **TechR - Technology for Human Rights, Oslo, Norway** (January, 2023 - present)
  - Part of a European Union programme to develop mobile and web-based platforms incorporating ludic design to bridge the digital divide between and among the youth of diverse backgrounds and cultures.

## Key Projects

- **Kaggle Malware Prediction Competition** (October - November, 2021)  
Mentor: Prof Neelam Sinha
  - Competed in a Kaggle competition for malware classification. Carried out batch-wise processing due to the big data nature of the input, tried out various strategies for high classification accuracy and finally settled on a LightGBM setup.
- **Data Processing using Hadoop MapReduce** (February 2022)  
Mentor: Prof Vinu E Venugopal
  - Processed, analyzed big data sources (Wikipedia entries) and ran semantic queries on them using Hadoop MapReduce, a distributed computing algorithm, in Java.
- **Edge Computing using EdgeX Foundry** (April 2022)  
Mentor: Prof Vinu E Venugopal
  - Created a mood lighting setup for a room using a mock setup of LEDs and Raspberry Pi (hardware end) and EdgeX Foundry, Docker and Python (software end).
  - Computing was carried out at the edge of the network, free from network constraints and latency.

## Scholastic Achievements

- Part of the **Dean's Merit List** at IIIT Bangalore for excellent academic performance, for three consecutive years (2020, 2021, 2022).
- Awarded the prestigious **Mitacs Globalink** Research Programme and the **DAAD WISE** Programme, for pursuing cutting-edge research in Canada and Germany, respectively, in 2023.
- Recipient of the Tata Steel Millennium Scholarship for demonstrating distinctive academic acumen.
- Secured a %ile of 99.43 in JEE Main (2019), among 1.2 million candidates.
- Among the top 1%ile of the ISC examination (class 12), conducted by CISCE.

## Technical Skills

- **Programming Languages:** C, C++, Python, Java, L<sup>A</sup>T<sub>E</sub>X, SQL

## Extra Curricular Activities

- National semi-finalist at the Wipro Earthian Sustainability Quiz 2021, India's first quiz on sustainable development.
- Two-time finalist at the Tata Crucible Campus Quiz (2021, 2022), India's largest business quiz.
- National semi-finalist on News Wiz 2016, India's first and biggest news quiz, broadcast on India Today TV.
- National finalist on Travel Quest 2015, India's first nationwide travel quiz, an initiative by Thomas Cook.
- Regional finalist on TCSITWiz 2014, India's biggest IT quiz, conducted by Tata Consultancy Services.
- Three-time winner of the JRD Tata Memorial Quiz (2014, 2015, 2016), organised in memory of the industrial pioneer by Tata Steel.