About the Bootcamp

This bootcamp is designed to provide participants with a comprehensive understanding of hardware security concepts and tools required detecting vulnerabilities and threats within hardware systems. Attendees will explore key topics such as the fundamentals of hardware security, methods of attacking hardware and circuits, and an in-depth analysis of Hardware Trojans and their various types along with different tools. The bootcamp will also cover practical aspects, including an introduction to Field Programmable Gate Arrays (FPGAs), their programmability, and the associated logic blocks. Additionally, participants will learn about Hardware Description Languages (HDL), as well as techniques and tools for inserting and detecting Hardware Trojans. The scope of the bootcamp is listed below:

- Overview of the importance of security in hardware design and systems.
- Understand various attack vectors targeting hardware infrastructure.
- Study of different types of Hardware Trojans and their implications on system security.
- Learn the fundamental concepts of HDL for hardware system design.
- Various types of FPGAs.
- Use various tools for insertion and detection of Hardware Trojans.

Course Content

This bootcamp is intended to cover the following topics:

- Introduction to tools required for hardware security.
- Attacks on Hardware and circuits.
- Introduction to different FPGAs.
- Introduction to HDL and various other programming languages required (Embedded C).
- Hardware Trojans insertion and detection.
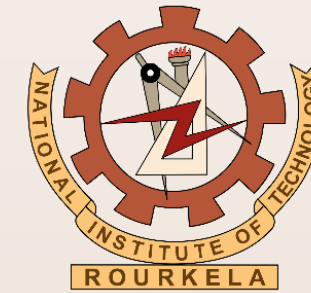- And Various tools, Xilinx, Artix-7, etc.

About NIT-Rourkela

NIT Rourkela is one of the premier national level institutions for technical education in the country and is funded by the Government of India. The main objective of the Institute is to produce quality Engineers and Scientists in Graduate and Post-Graduate levels in various branches of Engineering and Science. According to the Times Higher Education (THE) ranking of the World's best Universities 2017, it is ranked in top 800 institutes of world, and it is only NIT to feature in the list. According to the QS University ranking: BRICS 2016 has figured NIT Rourkela in the list of 111-120 top universities in Brazil, Russia, India, China and South Africa.

Patron

Prof. K. Umamaheshwar Rao
(Director of NIT Rourkela)

Chairman

Prof. Bibhudatta Sahoo
(HOD, Dept. of CSE, NIT Rourkela)

One-Week Bootcamp

(Offline)

On

Hardware Security and Tools (BoSHaT25)

Jan 17th 2025 to Jan 21st 2025

Organized by:
Department of Computer Science and Engineering,
National Institute of Technology Rourkela

www.nitrkl.ac.in

About Department of Computer Science & Engineering

Department of Computer Science & Engineering, NIT, Rourkela was established in 1982. Since its inception, the Department is under dynamic progress and is able to establish the reputation for imparting quality education both at undergraduate and graduate programs. The department also offers Ph. D. for regular as well as sponsored candidates. The department has well equipped modern laboratories such as Software Engineering, Distributed Object Systems, Information Security & Data Communication, Image Processing & Cluster Computing and Advanced Database Engineering Labs for pursuing research keeping in view of the technological advancement.

Target Participants

The bootcamp is of immense interest for UG students, working in the area of Hardware Security. The participants from different Science and Engineering (Computer Science and Engineering, Electronics and Communication Engineering, Electrical Engineering, etc.) background will be benefitted with this course.

[Maximum offline participants 25(MAX)]

Eligibility: >=75% in 10th, 12th & UG

**NOTE: The organizers will determine the confirmation of participation.

Pre-requisite

- Laptop

Important Dates

Last date of Registration	15th December 2024
Bootcamp Schedule	17-21 January 2025

About Location

NIT-Rourkela is well connected by Rail. This institute is located at a distance of about 7 KMs from Rourkela Railway Station in Odisha State. Rourkela station is well connected by Kolkata, Chennai and Mumbai and Bhubaneswar.
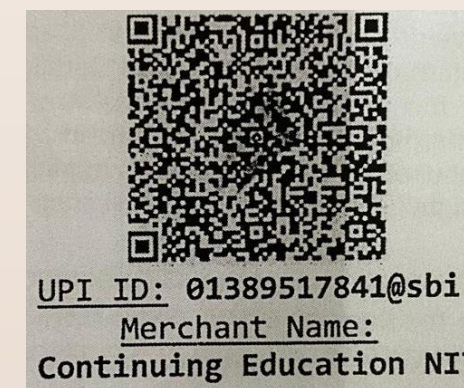
Registration details

- The students of NIT Rourkela are exempted from the payment of the registration fee. (Max Seat 10)
- **Registration fee for Non-NITR students is INR 1000+18%GST = INR 1180**

Amenities offered

- Bootcamp Kit
- Refreshments during the camp
- Accommodation (Non-NITR):
  - **Hostel Room**:
    (Charges to be paid for bed roll and pillow approx. **INR 60/-(per day))**
  - **Hostel Fooding**: **INR 150/-(per day)** approx.
- Certificates upon completion of the bootcamp

Payment Details

Account Name	CONTINUING EDUCATION NIT ROURKELA
Account No.	10138951784
Bank	State Bank of India
Branch	NIT Campus Rourkela
IFS Code	SBIN0002109

UPI ID: 01389517841@sbi
Merchant Name:
Continuing Education NIT

Registration Form

To complete online registration, the participants need to fill out the following google form:

https://forms.gle/1byDjKwzbrc1ADo6A

Certificates will be provided to the registered participants upon successfully completing the bootcamp.

Bootcamp Coordinator

Convener:	Coordinator:
Prof. Shyamapada Mukherjee	**Prof. Sujata Mohanty**
Contact No: 0661-2462357	Contact No: 0661-2462363

Contact and Queries: *Please send your queries directly to the student coordinator*

email: *stcnitr2024@gmail.com*   *223cs2122@nitrkl.ac.in*
524cs1004@nitrkl.ac.in

contact: 7381157886 (please avoid calling)