

Nithish Krishnabharathi GNANI

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EDUCATION

- Polytech Nice Sophia, Université Cote d'Azur** **Sophia Antipolis, France**
 - KTH Royal Institute of Technology** **Stockholm, Sweden**
EIT Digital Dual Master of Science - Autonomous Systems and Intelligent Robots **2024 - 2026**
Minor: Innovation and Entrepreneurship
- National Institute of Technology Karnataka (NITK) | Top 10 engineering institution in India** **Surathkal, India**
Bachelor of Technology (4-year program) - Mechanical Engineering **2013 - 2017**

WORK EXPERIENCE

- Indian Institute of Science (IISc) | The best research institution in India** **Bangalore, India**
Technical Associate **2019-2024**
 - Led industry-funded research projects. Sponsored by the Cisco Center for Networked Intelligence at Robert Bosch Center for Cyber-Physical Systems (RBCCPS). Promoted from Research Assistant to this role.
- Coca-Cola (HCCBPL)** **Hyderabad, India**
Team Leader, Maintenance **2017-2018**
 - Managed a team of 20+ associates to achieve consistent reliability of utility systems.

SELECTED PROJECTS (More: <https://nithishkgnani.github.io/projects/>)

- BalanceBot: Simulink-Based Control Deployment on Hardware** Sep 2024 - present
 - To implement various control algorithms on a two-wheeled robot to move and balance it using a model based approach.
- Designing Tactile Cyber-Physical Systems** Mar 2022 - Aug 2024
 - Created a testbed for real-time human-robot interaction with ultra-reliable low latency communication. Built a remote robotic arm system interfaced with a haptic device for teleoperation across continents.
 - Implemented IEEE 802.1 TSN features on hardware for enhanced network reliability and latency.
- 5G AMMAZING** Mar 2020 - Jun 2022
 - Developed a 5G mmWave system for infotainment with split data and control planes over 5G and Wi-Fi.
 - Won first place (€6,500 cash award) in 5G Hackathon 2020 by Government of India among 1100+ teams.
- Wi-Fi Modelling** Jul 2020 - Jun 2021
 - Modelling & simulation of IEEE 802.11n & 802.11ac using MATLAB to evaluate throughput, packet error rate & range.
- Acoustic PUF for Sensor Security** Nov 2019 - Jul 2021
 - Identified and localized sensor devices using acoustic fingerprinting for security and integrity monitoring.
- Energy Harvesting IoT Sensors** Nov 2019 - Jun 2020
 - Developed adaptive sampling algorithms for energy-efficient data management in IoT sensors.
- Total Productive Maintenance** Nov 2017 - Apr 2018
 - Improved reliability and reduced failures in Coca-Cola's bottling plant through TPM steps.

SKILLS & INTERESTS

- Programming** : Python, MATLAB, Simulink, P4, C, C++, Embedded C, Shell
- Hardware** : Netronome Agilio Smart NIC, Nordic nRF52 series, Arduino
- Tools** : Linux, Git, ROS, Docker, LaTeX, Autodesk Fusion 360
- Creative** : 3D printing, Shotcut, Snapseed
- Languages** : English (IELTS band score 8/9), French (A1)



Website

PUBLICATIONS

- EdgeP4: In-Network Edge Intelligence for a Tactile Cyber-Physical System Testbed Across Cities** **Best Paper Award**
IEEE INFOCOM '24
- Towards a TSN-DetNet Intercity Testbed for Tactile Cyber-Physical Systems** *IEEE INFOCOM '24*
- Sensor Identification via Acoustic Physically Unclonable Function** *ACM DTRAP journal*
- Judicious data management for sustaining an energy harvesting sensor node** *Wiley CCPE journal*