i can crack IT

CONTEST

01

What is i Can Crack IT?

This year KPIT launches a new challenge related to real time Industrial problems. Here the problem statement is given by KPIT and solution is provided by students. KPIT shall also provide the required environment, useful links, and access to data available for research. This gives an opportunity to students for filling a Joint patent with KPIT. This contest allows students to add one faculty as a team member.

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02 Theme for i Can Crack IT

Students can submit their innovation by choosing following categories. Participants can select one or more problem statements to solve.

Categories	Problem Statements
Automotive Cybersecurity	• Device Authentication Mechanism over Local Interconnect Network • Fuzz Testing on Local Interconnect Network based Implementations • Identify and Validate Vulnerabilities using Penetration Testing • Security Assessment of Secure Flashing and Bootloader for Automotive Software • Security Assessment of Autonomous Vehicles
Connected Vehicles	• Biker to Biker Communication • Optimum Routing for On - Demand Delivery
Infotainment	• To build an optimized initialization program for Linux based Automotive Infotainment Software • Reduce the overall footprint for Qt-UI framework for Automotive Infotainment Software • Option Evaluation for KPIT's automotive Infotainment platform to address security threats using Mandatory Access Control • Feature to access Calendar from Smartphone on Automotive infotainment system running KPIT IVI software • Boot time optimization for Automotive infotainment system running KPIT IVI software • Develop a platform independent tool to capture Bluetooth HCI Snoop Log for debugging Automotive infotainment software • Intelligent Testing System for Automotive Infotainment Software • KD Bus Migration for effective IPC communication for Automotive Infotainment Software • MFI Trace Parser Tool for debugging Apple CarPlay feature for Automotive Infotainment Software

Autonomous Driving	• Design and develop multiple object tracking algorithm • Automatic Number Plate Recognition (ANPR) for different fonts and non-Roman scripts • Detection of kerb-side parking-slot, with poor kerb-side / lane-markings • Gaze, Micro-gestures and Hand-signal Detection of law-enforcement officers and other road-users
Electric Vehicle	• Optimization of Battery Thermal Management for Electric Vehicles • Improve Motor Efficiency for Electric Vehicles • Develop algorithm to calculate State of Health of battery for electric vehicles
Powertrain	• Virtual Nox Sensor • Virtual Torque Sensor • Fusion of Physics and Machine Learning for Battery Modelling • Efficiency Improvement Program for Electric Vehicles
Alternative Powertrain	• Design and development of Automotive Grade Solid State Battery • Development of efficient onboard Hydrogen Storage System for Fuel Cell vehicles • Hydrogen Purification from syngas produced from biomass gasification
Automotive Diagnostics	• Human Less (Robotic arm) diagnostics
Tools	• Deep Learning based Expense recognition Software Challenge
Analytics	• Design efficient Schedule Optimization Algorithm for Electric Bus

E.g – Once a student registers for **i Can Crack IT,** they can select any category mentioned above and select the problem statement. After selecting the problem statement, you shall get a document which specifies in detail about the problem statement selected.

03 Who can participate?

This innovation platform is for all students of undergraduate, post-graduate and PhD courses from Science, Engineering, Design and Management colleges and universities across India.

Student can participate either as an individual (=1 member) or as a team (maximum team size: 3 members including a Professor).

There is no restriction on team configuration; team members can be from same or different department(s), branches and colleges.

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04 Things You need to know before participating!

Visit
https://sparkle.kpit.com

01

Register by filling in
relevant information.
All team members to
register individually.
Team leader can add
up to 2 members
to form the team

02

Select i Can Crack IT

03

Select problem statement
you wish to solve

04

Accept the terms and
conditions to proceed

05

Read Problem Statement
Document carefully to
know deliverables
and milestones

06

Your team shall
have a unique sparkle
ID generated.
e.g. SP20C00001

07

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Things You need to know before participating!

Submit the expected output mentioned in milestone 1

08

Submitted ideas/ solutions shall be evaluated for next milestone selection

09

Participants completing Milestone 2 shall compete for Awards

10

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05 Benefits

1 Joint IP opportunities with KPIT

2 3rd year UG and 1st year PG Students completing Milestone 1 shall be eligible for Internships

3 Industry Exposure Program for Professors who are part of the team completing Milestone 1

4 Win 20 awards of 50K

*Conditions apply

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06 Timeline:

Timeline for this contest totally depends on the problem statement selected by you. It shall be available on your idea card once you select problem statement.

07 Awards:

20 Awards of ₹50,000/- each.

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thank you