



SOMAIYA
VIDYAVIHAR UNIVERSITY

K J Somaiya College Of Engineering

SuRaksha Cyber Hackathon 2.0

Event: SuRaksha Cyber Hackathon 2.0 - Grand Finale

Hosted By: Canara Bank

Date and Time: Friday, 24th July 2026

Venue: A V Rama Rao Auditorium, Indian Institute of Science (IISc), Bengaluru

Team Details:

Team Name: Team Quantra

Team Leader: Mihir Phalke

Team Members: Aakanksha Singh, Aditi Singh, Mihir Phalke, Vivek Jain

Faculty Mentors: None

Event information:

SuRaksha Cyber Hackathon 2.0 is a national-level cybersecurity and fintech innovation hackathon organised by Canara Bank in association with HackerEarth. The Grand Finale was held at the Indian Institute of Science (IISc), Bengaluru, and judged by a panel of IISc professors alongside senior officials from Canara Bank, the Reserve Bank of India, and the broader Indian banking industry. The hackathon invited student teams to build practical, technology-driven solutions to real challenges faced by the Indian banking sector, with a focus on fraud prevention, compliance, and financial security.

Team Quantra participated in two problem statements across the competition. The primary submission was SAMHITA, an offline multi-agent regulatory compliance automation system for Indian banking. The additional submission was KANCHAN-AI, a multi-modal spurious gold detection and gold loan appraisal co-pilot. Both submissions were presented at the Grand Finale. KANCHAN-AI was shortlisted as the winning problem statement.

Event website: [SuRaksha Cyber Hackathon 2.0](#)



Problem Statement : Identification of Spurious Gold in Gold Loan Processing

When a customer applies for a gold loan, the pledged gold must be verified for authenticity as part of the appraisal process. The challenge is that conventional methods have a critical blind spot: if an item is internally contaminated, for example, with a base-metal or tungsten core, and coated with a thick layer of genuine gold, the standard stone-rubbing touchstone test only reads the outer gold layer and fails to detect the adulteration beneath. The hackathon sought an effective, low-cost solution suitable for branch-level deployment.

Department/Organizers: Canara Bank × HackerEarth

Proposed Solution:

KANCHAN-AI is a gold authentication and loan processing system built for bank branches. It tests a pledged gold item using five independent methods, measuring its density in water, recording and analysing the sound it makes when tapped, photographing it with a calibration card for accurate colour and size measurement, detecting and deducting the weight of any gemstones, and building a 3D visual record for the case file. The key innovation is that when two signals that should agree with each other contradict, for example, the density reading says gold but the tap sound says something much stiffer, that contradiction itself becomes the fraud signal. This catches gold-plated tungsten cores, which pass every standard branch test individually because tungsten has nearly identical density to gold but rings at a completely different pitch when tapped.

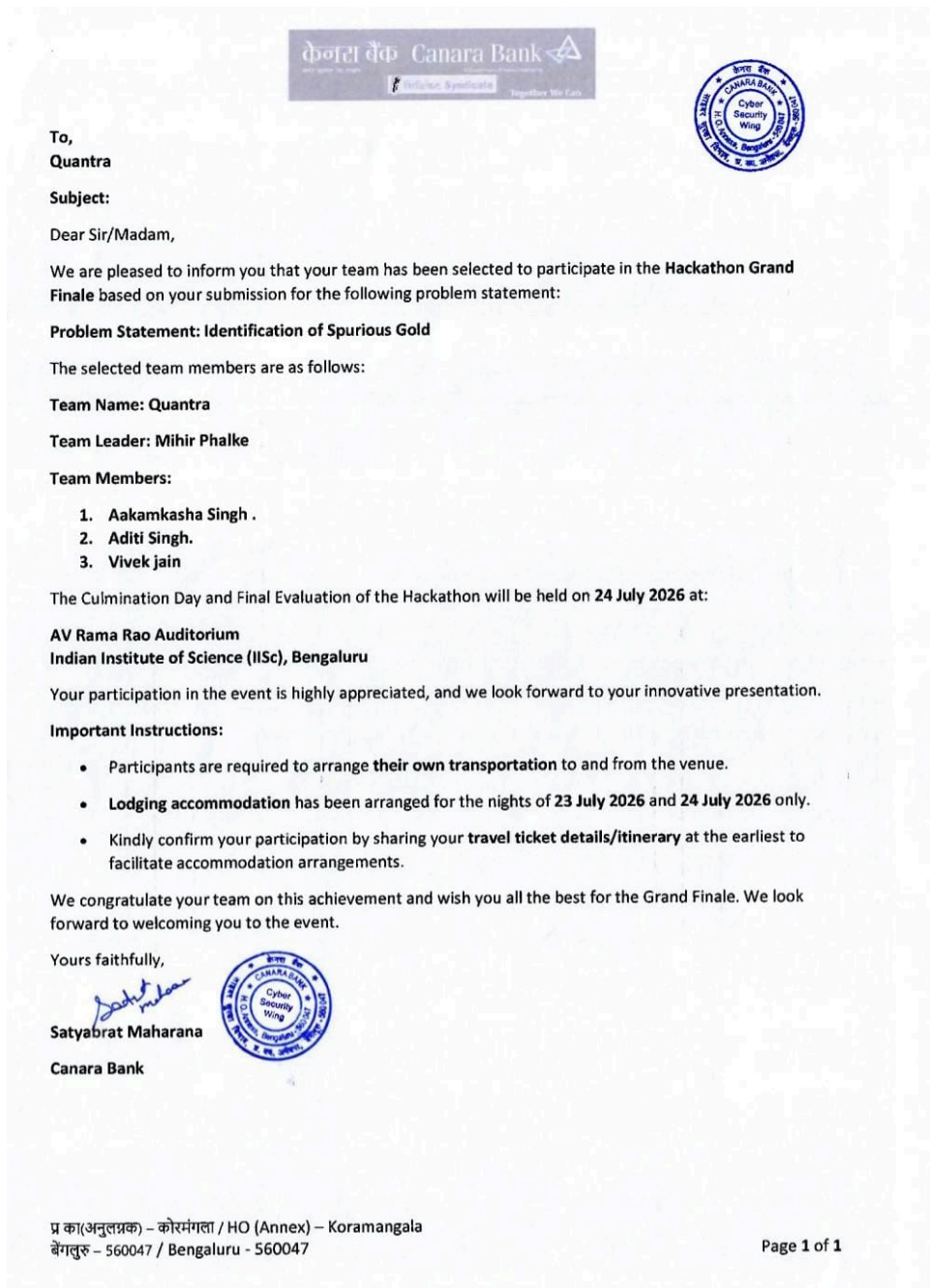
The system also handles the loan calculation automatically, computing the eligible loan amount using the RBI-mandated valuation formula, applying the correct loan-to-value ratio by loan size, and generating the required certificate without any manual paperwork. To prevent insider fraud, the weighing scale feeds numbers directly into the system so the officer cannot type a fabricated weight, every photo is checked against all prior submissions across branches to catch reused images, and every case is locked in a tamper-proof audit log that shows exactly who did what and when. The entire system runs on the laptop already on the branch desk, costs under ₹13,000 in additional hardware, and works without internet connectivity.

Winning Prize:

Position: 5th Place

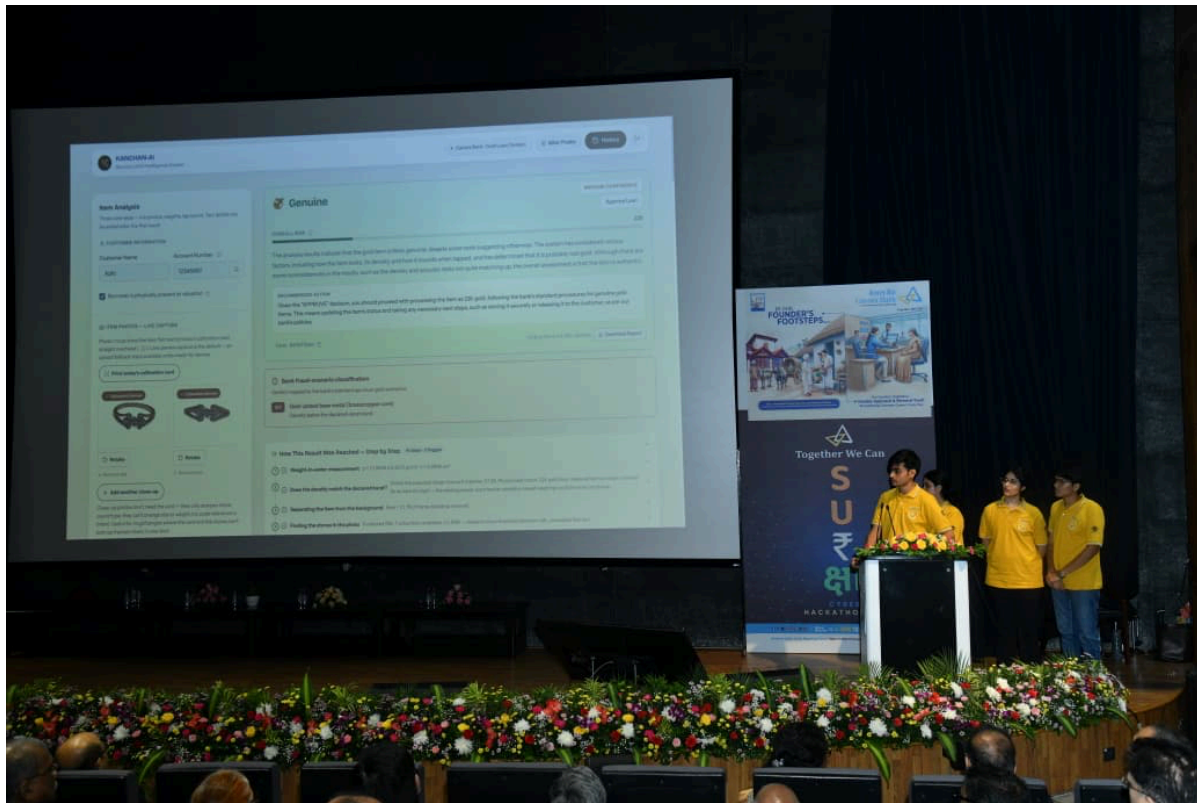
Prize: ₹50,000 awarded to Team Quantra

If the competition had a screening round, the Email screenshot stating that you have been selected for hackathon:



Pictures taken during event :







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Winning Certificates:





SUरक्षा

Cyber Hackathon 2.0



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DEPARTMENT OF
FINANCIAL SERVICES



CERTIFICATE

OF PARTICIPATION

THIS CERTIFICATE IS PRESENTED TO

ADITI SINGH



In recognition of your successful participation in **Canara Bank's Cyber Suraksha Hackathon 2.0**. Thank you for being a part of the challenge and showcasing your skills.

24 /07 /2026

DATE

MD & CEO, CANARA BANK

SURक्षा

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DEPARTMENT OF
FINANCIAL SERVICES



केनरा बैंक
Canara

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If applying for Attendance concession for traveling dates, details of travel such as train/flight tickets etc:

We are requesting for the financial assistance as per following details:

Sr. No	Team Name	Location	Travel expenses for team of 3 [Flight]	Cabs/Taxi	Total
1	Quantra	Bangalore	Mumbai to Bangalore = ₹18,000	₹2500	₹20,500
2			Bangalore to Mumbai = ₹18,000	₹2500	₹20,500

Total Amount: INR 41,000/-