PRATHAM AGARWAL
23HS10065
DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

Contesting for the post of
General Secretary Technology
Technology Students' Gymkhana
Indian Institute of Technology Kharagpur (2025-2026)

PROPOSAL 1: FRESHERS' TECH MENTORSHIP AND ONBOARDING WORKSHOP WEEK

Overview:

The proposed week-long orientation aims to bridge the gap between senior students and incoming freshers at IIT Kharagpur, ensuring that newcomers receive comprehensive guidance about various tech fields before society selections begin. Unlike traditional introductory seminars, these sessions will focus on sharing practical insights, recognized competitions, and personal journeys rather than mere society promotion. By fostering early, direct interactions with experienced seniors, freshers will gain clarity on available resources, potential career paths, and real-world challenges in each tech domain.

Proposal:

1. **Structured Week of Workshops:** Schedule daily sessions for one week, each led by a different tech society or senior group. Tailor sessions to focus on genuine knowledge transfer, highlighting recognized competitions, industry trends, and practical tips.

2. **Hands-On Mini Demonstrations:** Incorporate brief, interactive demos or micro-workshops to illustrate core concepts of each field. Encourage open Q&A and personal interaction with seniors to solidify understanding.

3. **Personal Journeys & Resource Sharing:** Seniors share their experiences—challenges, key milestones, and strategies to excel in their respective areas. Provide curated resources (e.g., online tutorials, recommended reading, or relevant tools) so freshers can begin self-learning immediately.

4. **Networking & Continued Mentorship:** Facilitate contact exchange sessions where freshers can directly connect with seniors, ensuring long-term guidance even if they do not join the specific society. Maintain a shared digital platform or group chat for ongoing queries and support.

Impact:

1. Early Exposure & Clarity: Freshers can explore multiple tech fields, helping them make informed decisions on which paths align with their interests and strengths.

2. Inclusive Mentorship: Offers support to all freshers, not just those selected by specific societies, thus broadening access to mentorship.

3. Stronger Senior-Fresher Community: Reinforces a culture of collaboration and open communication, reducing intimidation and fostering long-lasting connections.

4. Enhanced Participation in Competitions: By learning about recognized events and competitions early on, students are more likely to participate and excel throughout their academic journey.

Groundwork

1. **Coordination with Tech Societies:** Obtain confirmation from each relevant tech society on their session dates and topics. Ensure all societies understand the focus on knowledge-sharing over promotional activities.

2. **Venue & Scheduling:** Book a suitable hall or common room for the week. Prepare a detailed timetable, publicize it via institute emails, social media groups, and posters.

3. **Resource Compilation:** Gather essential study materials, competition links, and seniors' contact information into a single shared drive or portal. Work with existing student bodies or the Technology Students' Gymkhana to streamline distribution.

4. **Feedback & Follow-Up:** Collect feedback from freshers after each session to refine future orientations. Encourage seniors to remain accessible throughout the semester for one-on-one guidance.

PROPOSAL 2: INNOVATION HUBS INITIATIVE – KSHTIJ

Overview:
Kshitij, the annual techno-management fest of IIT Kharagpur, has consistently been a beacon of innovation and technological advancement. To elevate its impact, this proposal introduces the Innovation Hubs Initiative, a suite of dedicated physical and virtual spaces designed to foster immersive exploration of emerging technologies and collaborative problem-solving. This initiative will transform Kshitij into a dynamic nexus of applied creativity, industry-academia collaboration, and futuristic problem-solving.Unlike conventional tech-centric events, the Innovation Hubs Initiative will focus on bridging theoretical knowledge with tangible, real-world solutions. By integrating cutting-edge domains such as Extended Reality (XR), sustainability technologies, smart wearables, and interdisciplinary innovation challenges, this initiative will equip participants with the skills and experience crucial for the industries of the future.

Proposal:

1. **Extended Reality (XR) Innovation Lab:** A state-of-the-art lab will be established with Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR) tools, offering hands-on experience in immersive technology development. Participants will have access to advanced hardware such as Meta Quest Pro and HoloLens, enabling them to work on real-time development and prototyping. Collaboration with XR startups like Imaginate and IIT Kharagpur's AI/VR research groups will ensure expert mentorship and technical guidance. To drive innovation, hackathons and challenges will be organized, where teams will develop solutions such as VR-based industrial training simulations and AR campus navigation.

2. **Sustainability Technologies Showcase:** An interactive exhibition space will display cutting-edge innovations like mycelium-based construction materials, bioluminescent urban lighting, and solar-powered IoT systems. Partnering with organizations like TERI and CarbonCure, the showcase will include live demos and workshops on building low-cost sustainable tech, such as DIY solar grids and bio-batteries.

3. **Smart Wearables Workshop:** Hands-on prototyping stations with Arduino,Raspberry Pi, and sensor kits will enable participants to design wearable tech for healthcare, sports, or accessibility. Industry collaborators like Fitbit and Wipro GE Healthcare will provide real-world use cases, mentorship, and judge prototypes based on usability and market viability.

4. **Open Innovation Challenges:** To promote interdisciplinary collaboration, the Open Innovation Challenges will bring together teams of participants from engineering, science, and humanities backgrounds. These teams will address high-impact problem statements posed by industry and government stakeholders.

Challenges may focus on issues such as smart waste management, AI-driven rural healthcare solutions, or urban resilience planning. A virtual collaboration hub will be provided to facilitate remote teamwork, mentorship, and progress tracking. Partnerships with organizations like NITI Aayog and Tata Projects will ensure that participants engage with practical, real-world challenges that have tangible social and technological impact.

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Impact:

1. **Applied Learning**: Participants gain hands-on experience with XR, sustainable tech, and wearable prototyping—skills critical for industries driving Industry 4.0.
2. **Sustainability Advocacy**: The showcase and workshops will inspire eco-conscious innovation, aligning with India's net-zero goals and SDGs.
3. **Industry-Academia Bridge**: Open Innovation Challenges connect students with real corporate/NGO problems, enhancing employability and entrepreneurial thinking.
4. **Festival Legacy**: Permanent XR and prototyping labs can serve as year-round innovation centers, extending Kshitij's impact beyond the fest.

Groundwork

1. **Industry Partnerships**: Secured interest from Meta's XR division and TERI for resource sponsorship and mentorship.
2. **Campus Infrastructure**: Identified underutilised spaces in the Tech Center for converting into XR and wearables labs post-fest.
3. **Student Engagement**: Piloted a mini-hackathon with the Robotics Club to test wearable prototypes, receiving 150+ registrations.
4. **Academic Alignment**: Collaborated with IIT KGP's Sustainable Development Cell to curate the sustainability showcase content.

PROPOSAL 3: CYBERSECURITY GRAND CHALLENGE – OPEN IIT

Overview:

As cyber threats grow in scale and sophistication, equipping students with proactive defense skills is critical. This proposal introduces the Cybersecurity Grand Challenge, a dynamic competition designed to simulate real-world cyber warfare scenarios. Unlike conventional Capture The Flag (CTF) events, this challenge emphasizes collaborative defense strategies, AI-driven threat detection, and incident response simulations, providing students with a holistic understanding of modern cybersecurity. Aligned with Open IIT's legacy of fostering technical excellence, this initiative aims to cultivate a new generation of cyber defenders ready to tackle evolving digital threats.

Proposal:

1. Expert-Led Workshops: Industry professionals from firms like Palo Alto Networks and CrowdStrike will conduct sessions on threat intelligence, ethical hacking, and AI-powered security tools. Participants will also receive training on platforms like Splunk and Wireshark for real-time data analysis.
2. Virtual Cyber Labs: A cloud-based lab environment will host simulated networks, allowing students to practice penetration testing, firewall configuration, and malware analysis in a controlled setting. Challenges will include defending critical infrastructure (e.g., power grids, banking systems) from staged attacks.
3. Live Cyber Defense Tournament: Teams of 3–4 will compete in a hybrid attack-defense format. Tasks include securing vulnerable systems, responding to ransomware scenarios, and reverse-engineering malicious code. A "Blue Team vs. Red Team" round will test both offensive and defensive skills under time pressure.
4. AI & Automation Track: A specialized category for advanced participants to develop machine learning models for anomaly detection or automate incident response workflows using tools like TensorFlow and Python.

Impact:

1. Industry-Ready Expertise: Participants gain hands-on experience with tools and methodologies used by cybersecurity professionals, bridging the gap between academia and industry demands.
2. Collaborative Problem-Solving: The team-based format fosters communication and strategic thinking, mirroring real-world Security Operations Center (SOC) environments.

3. Exposure to Emerging Trends: Integration of AI/ML prepares students for next-generation cybersecurity roles, a rapidly growing domain in tech.
4. Community Building: The event will unite cybersecurity enthusiasts across disciplines, creating a knowledge-sharing network that persists beyond the competition.

Groundwork:

1. Industry Partnerships: Initiated discussions with Palo Alto Networks' Cybersecurity Academy and IBM Security for mentorship, tool access, and internship opportunities for top performers.
2. Faculty Collaboration: Engaged IIT KGP's AI and Network Security research groups to design challenges and provide technical oversight.
3. Infrastructure Readiness: Partnered with AWS Educate to host virtual labs, ensuring scalable and secure environments for all participants.

<u>PROPOSAL 4: INTER IIT TECH LEGACY – VOICES OF INNOVATION</u>

Overview:

Inter-IIT Tech Meet is not just a competition; it's a transformative journey. To bridge the gap between past and present participants, this proposal introduces Inter IIT Tech Legacy, a dynamic multimedia campaign that captures authentic stories of ex-participants across domains, roles, and batches. Unlike static repositories, this initiative leverages video testimonials, podcasts, and bite-sized social media content to ignite passion, foster ownership, and showcase the personal growth, career opportunities, and camaraderie that define the Inter-IIT experience.

Proposal:

1. **Curated Storytelling Platform:**
   a. Diverse Voices: Interview 15–20 ex-participants from varying roles (captains, coders, designers) and batches (2018–2023), ensuring representation across problem statements (AI, robotics, sustainability).
   b. Thematic Focus: Highlight 5–7 key themes:
      i. *Career Catalysts:* How Inter-IIT boosted internships, placements, or research.
      ii. *Skill Validation*: Real-world applications of competition learnings.
      iii. *Team Dynamics*: Stories of collaboration, conflict resolution, and leadership.
2. *Personal Growth*: Overcoming stress, time management, and resilience.

2. Multimedia Content Creation

   a. **Video Testimonials**: 2–3 minute clips with alumni, filmed in iconic campus locations (Main Building, Tech Market) or remotely.
   b. **Podcast Series**: 4–6 episodes featuring candid conversations with captains and mentors, discussing failures, breakthroughs, and behind-the-scenes strategies.
   c. **Social Media Snippets**: Convert key quotes into carousels, reels, and LinkedIn posts (e.g., "How Inter-IIT Shaped My Career – [Alum Name]").

3. Distributed Engagement Strategy

   a. **Content Calendar**: Roll out testimonials weekly for 8 weeks pre-competition, tagged with #InterIITLegacy.
   b. **Live Q&A Sessions**: Host 2–3 Zoom/YouTube Live sessions where alumni answer questions from aspiring participants.
   c. **Email Campaigns**: Share curated stories with juniors via institute newsletters, emphasizing deadlines and team applications.

4. Incentivized Participation

    a. **Alumni Recognition**: Feature contributors in the institute's annual magazine and award "Legacy Contributor" certificates.

    b. **Student Challenges**: Run contests (e.g., "Best Question to Alumni") with rewards like mentorship sessions or Inter-IIT merchandise.\

    c. **Mentorship Program:** Pair current participants with alumni mentors for personalized guidance. Create a structured program where students can seek help on technical doubts, career pathways, and Inter-IIT preparations. A "Legacy Mentorship Badge" can be awarded to active alumni contributors.

Impact:

1. Cultural Continuity: Preserves institutional knowledge and fosters pride in KGP's Inter-IIT legacy.
2. Motivational Surge: Personal stories humanize the competition, addressing the "why participate" question more effectively than abstract pitches.
3. Skill Visibility: Demonstrates how Inter-IIT skills translate to internships, startups, and higher studies.
4. Community Building: This creates a bridge between batches, encouraging mentorship and peer learning.

Groundwork:

1. Team Structure: A core team comprising the GSec Tech, Contingent Captains, and three Design Secretaries has been established. Roles are distributed among content curators responsible for identifying alumni and drafting interview questions, a production crew to handle video filming/editing and social media asset design, and distribution leads to manage platform uploads and track engagement metrics.
2. Alumni Outreach: A list of 30+ former Inter-IIT Tech participants has been compiled through LinkedIn and alumni networks. Commitments have been secured from 12 alumni, including high-profile contributors such as a 2020 Robotics Captain currently at Tesla and a 2019 AI Lead pursuing a PhD at MIT.
3. Resource Allocation: Partnerships with the institute's Media Cell have been finalized to provide equipment and editing support. Reserved slots on the Gymkhana's official social media calendar ensure consistent campaign postings, maximizing visibility among students.

PROPOSAL 5: FPP RACING CHAMPIONSHIP – KSHTIJ

Overview:

FPP (First-Person Perspective) Racing, a thrilling blend of cutting-edge technology and high-speed competition, is rapidly gaining global popularity. This proposal introduces the FPP Racing Championship at Kshitij, IIT Kharagpur, to showcase innovation in robotics, real-time control systems, and immersive tech. Participants will pilot custom-built drones or RC cars using live camera feeds and VR headsets, navigating dynamic obstacle courses and speed tracks. Designed to ignite creativity and technical prowess, this event will position Kshitij as a pioneer in hosting next-gen tech-sport spectacles while fostering hands-on learning in robotics, electronics, and aerodynamics.

Proposal:

1. Event Structure:
    a. **Workshops & Training:**
        i. Beginner Sessions: Collaborate with aeromodelling clubs and companies like DJI or BetaFPV to teach FPP racing basics, vehicle assembly, and safety protocols.
        ii. Advanced Labs: Focus on optimizing FPV (First-Person View) systems, battery management, and obstacle course strategies.
    b. **Qualifiers**: Host time-trial rounds where participants race through predefined tracks. The top 20 teams advance to the finals.
    c. **Grand Finale:**
        i. Obstacle Course: Tunnels, ramps, and moving barriers to test agility.
        ii. Endurance Challenge: Long-distance race with battery/power constraints.
        iii. Innovation Bonus: Awards for teams using 3D-printed parts or AI-driven navigation.
2. Tech Infrastructure
    a. Racing Arena: Set up a 20x20m outdoor/indoor track with modular obstacles (sponsored by tech partners).
    b. Live Streaming: Equip drones with HD cameras for real-time FPV feeds displayed on large screens. Spectators can watch via VR headsets or live streams.
    c. Safety Gear: Provide goggles, helmets, and RFID-based collision detection systems to prevent accidents.
3. Partnerships & Sponsorships
    a. Industry Collaborators: Engage FPP racing brands (e.g., Fat Shark, TBS) for equipment loans, prizes, and judge panels.

      b.   Campus Clubs: Partnered with Robotics Club and Aeromodelling Society for technical support and participant mentorship.

Impact:

1. **Skill Development**: Enhances expertise in drone/RC engineering, real-time problem-solving, and teamwork.
2. **Spectator Engagement**: Attracts massive footfall with immersive viewing experiences (VR/FPV streams).
3. **Kshitij Branding**: Positions the fest as a hub for futuristic tech-sport events, drawing media attention and industry partnerships.
4. **Entrepreneurial Opportunities**: Encourages startups in drone tech, FPV systems, and IoT integration.

Groundwork:

1. Infrastructure Readiness: Identify a suitable venue capable of accommodating a 20x20m racing track. Collaborate with the Tech Clubs and others to design modular obstacle modules (tunnels, ramps, barriers) and finalize track layouts. Procure safety equipment, including RFID-based collision detectors, goggles, and helmets.
2. Industry Outreach: Secure partnerships with FPP racing brands (e.g., DJI, BetaFPV, Fat Shark) for equipment loans, drone kits, and technical mentorship. Negotiate sponsorships for prizes (e.g., high-end drones, VR headsets) and workshop support. Finalize agreements with tech partners to provide live-streaming tools and FPV systems.
3. Student Mobilization: Organize pre-event workshops with aeromodelling clubs to train participants in drone assembly, FPV navigation, and safety protocols. Conduct a campus-wide promotional campaign (social media, posters, department notices) to attract teams. Gauge interest through a pilot workshop and adjusting event logistics based on participant feedback.