Azure AI Hackathon Topics: Guidance & Assessment Rubrics

Overview of Azure AI Hackathon

The Azure AI Hackathon is a 2-day intensive event designed to challenge participants to develop AI-driven applications using Azure AI Services. This hackathon focuses on building solutions leveraging Generative AI, NLP, Computer Vision, and AI-powered automation. Participants will work in teams to solve real-world challenges while learning how to integrate Azure AI capabilities into their projects.

Agenda for the Hackathon

Day 1:

- Kick-off & Introduction to AI and provided resources.
- Team formation and brainstorming sessions.
- Hands-on workshops and initial prototyping.

Day 2:

- Project refinement and final model integration.
- Pitch preparation & final submission.
- Presentation to judges & closing ceremony.

Event Schedule: Azure AI Hackathon

Date & Time	Time	Activity	Details	Form Links
24-Mar-25	**Before 6:00 pm**	Deadline for Team Nominations	Teams must complete and submit the Microsoft nomination form before **6:00 PM**.	Form Link
25-Mar-25	**9:30 AM - 12:30 PM**	AI Workshop	**Workshop on Azure AI Services & Tools** – Hands-on session covering how to use Azure AI services for project building.	-

	12:30 PM - 1:00 PM	Lunch	**Lunch Break** – Participants break before project building begins.	-
	1:00 PM onwards	Hackathon	**Project Development Begins** – Students start working on their projects using Azure AI services.	-
26-Mar-25	**Before 1:00 pm**	Submission Deadline	**Final Submission Deadline** – All teams must submit their final project and required documentation.	Form Link
	Before 4:30 PM	Announcement of Top 10 Projects	**Top 10 Projects Announcement** – Selection based on evaluation by IIT Patna, Microsoft, and IN-BIOT Experts.	-
	Starting 4:30 PM or 5:00 PM	Final Presentation Start	**Top 10 Teams Pitch Presentations** – Selected teams present their projects to Microsoft Leaders via **Teams Meeting (Link will be shared to selected teams).**	-
		After Evaluations	**Final Winners Announcement** – Winners will be decided based on Microsoft Leaders' judgment. **The decision of the judges is final and binding.**	-

Additional Guidelines:

- All projects must be original and must not infringe on any intellectual property.
- Teams must ensure all required project components (technical document, prototype, GitHub repo, and pitch video) are completed before submission.
- Incomplete or late submissions will not be considered.
- The Teams meeting link for final presentations will be shared only with the top 10 selected teams.

Objectives and Expected Outcomes

Objectives:

- Provide hands-on experience in building AI solutions.
- Encourage innovation in Generative AI applications.
- Enhance collaboration and problem-solving skills through team-based projects.
- Introduce best practices in AI ethics and responsible AI development.

Expected Outcomes

- Participants will develop a working prototype or proof-of-concept AI application.
- Gain knowledge in AI model deployment, prompt engineering, and AI optimization.
- Present solutions to a panel of experts for evaluation and feedback.

General Information Regarding the Hackathon

Access to AI Tools

Participants will receive limited and controlled access necessary to complete their projects, specifically:

- **Azure AI Services Endpoints & Keys**: Participants will receive specific endpoints and keys required for integrating Azure AI models into their applications.
- **Azure Storage Account Details**: Secure Azure Storage will be provided for data management and project implementation purposes.
- **Azure OpenAI Services**: GPT, DALL-E, Codex, and DeepSeek will be available for Generative AI applications.
- **Azure Cognitive Services**: Participants can leverage Azure Cognitive Vision, Text Analytics services.

Restrictions on Azure Access:

- **No Azure Portal Access**: Participants will not have direct login access to the Azure Portal.
- **Limited-Service Scope**: Participants must exclusively use Azure AI and Storage services provided. Any usage beyond these services is strictly prohibited

Understanding Generative AI and Its Applications

- **Prompt Engineering & Optimization** for AI chatbots and content generation.
- **AI-driven Data Insights & Automation** for business applications.
- **DALL-E for Image Generation** and AI-powered visual content.

- **Use Cases** in Healthcare, Finance, Marketing, and Smart Assistants.

Ethical Considerations in AI Development

- **Bias Mitigation** in AI models.
- **Data Privacy & Compliance** (GDPR, AI Ethics Guidelines).
- **Fairness and Explainability** in AI decision-making.
- **Responsible AI Principles** by Microsoft.

Guidelines for Team Formation and Collaboration

- Teams of **5 participants** will be formed.
- Each team must designate one member as the **team lead**.
- Collaboration through **GitHub, Azure DevOps, or Microsoft Teams** is encouraged.
- Participants are advised to leverage **Azure's collaborative AI tools and APIs**.

Q&A and Support Channels

- **Comprehensive Documentation & Tutorials** on the provided AI tools.
- **Dedicated Technical Support** during the hackathon at **support@inbiot.co.in** and via a **dedicated Teams chat**.
- **Support Scope:** Assistance is available for **Azure AI Services uptime and connectivity issues**. Students are expected to **self-research "how-to" information** using Microsoft's official documentation. Support is strictly limited to **technical issues related to Azure connectivity or access to AI Services** for this engagement.

Submission Requirements:

- **Components of Submission:**
  - A **functioning AI prototype** or a **detailed proof of concept**.
  - A **technical document** or a **GitHub repository** containing project details.
  - A **5-minute pitch presentation** a link to the video must be provided in the online submission form link.
- **Evaluation Process:**
  - **Initial Selection:**
    - A panel of experts from **IIT Patna, Microsoft, and IN-BIOT** will evaluate all submissions.

        - The **Top 10 pitches** will be selected based on **innovation, technical feasibility, and impact**.
    - **Final Presentation & Winner Selection:**
        - The **Top 10 teams** will present their projects to **Microsoft Leaders** in an **online Teams meeting**.
        - The final winners will be **determined solely by the judgment of Microsoft Leaders**.

The decision of the judges is final and binding.

- **Additional Guidelines:**
    - Submissions must be original and should not violate any intellectual property rights.
    - Teams must ensure all project components (prototype, technical document, and video) are **complete and accessible** before submission.
    - Late or incomplete submissions will not be considered.

Presentation Guidelines

Participants must follow these structured guidelines to ensure clarity and effectiveness of their pitch presentations:

Recommended Presentation Format:

Participants' 5-minute pitch videos should clearly include:

- **Introduction (30 seconds):** Briefly introduce your team and the chosen topic.
- **Problem Statement (30 seconds):** Clearly define the real-world problem or opportunity your project addresses.
- **AI-Driven Solution (1 minute):** Explain your AI-based solution, highlighting the Azure AI Services used.
- **Technical Demonstration (2 minutes):** Showcase a functional demo or prototype of your AI solution.
- **Impact & Future Scope (1 minute):** Highlight the solution's practical impact, scalability potential, and next steps for further development.

Video Submission Guidelines:

- **Duration:** Strictly limited to 5 minutes.
- **File Size:** Maximum file size of 500MB.
- **Format:** Accepted formats are MP4, MOV, and AVI.
- **Resolution:** Minimum 720p HD (recommended 1080p).
- **Platform:** A link to the video must be uploaded via the official submission form provided by organizers. Alternative submissions (email or cloud links) will not be accepted.

Code & Documentation Standards

Participants are required to follow consistent coding and documentation standards to facilitate clear evaluation:

Coding Conventions:

- **Languages & Frameworks:** Clearly mention all programming languages, frameworks, and libraries utilized.
- **Structure & Readability:** Maintain clean, modular, and readable code.
- **Naming Conventions:** Use meaningful variable names, consistent camelCase or snake_case conventions, and avoid ambiguous abbreviations.
- **File Organization:** Clearly structure your repository with separate folders for code, datasets, documentation, and assets.

Commenting Standards:

- Provide meaningful inline comments explaining critical functions, complex logic, or unique algorithms.
- Include clear function-level documentation outlining purpose, inputs, and outputs.
- Clearly mark sections of experimental or incomplete code.

Documentation Structure:

Each GitHub repository must include:

- **README.md:** Clear description of the project, problem statement, solution overview, technology stack, deployment instructions, and team information.
- **Technical Document (PDF or Markdown):** Detailed description including data flow diagrams, AI services integration, step-by-step deployment guidance, testing results, challenges faced, and future improvements.
- **License File:** Include an appropriate open-source license file (MIT, Apache 2.0, etc.) clearly indicating terms of use.

Disqualification Criteria

Participants must strictly adhere to the following ethical guidelines. Violation of any criteria listed below may result in immediate disqualification:

Plagiarism & Intellectual Property:

- Projects must be original; any form of plagiarism or unauthorized use of third-party intellectual property is prohibited.
- Clearly attribute open-source or publicly available resources used in your solution.

Communication & Professionalism:

- Maintain respectful and professional communication with teammates, mentors, judges, and organizers.
- Any instances of disrespectful language, harassment, or inappropriate behavior are grounds for immediate disqualification.

Content Appropriateness:

- Submissions must not include any content that is discriminatory, offensive, defamatory, or otherwise inappropriate.
- Projects violating community standards, guidelines, or responsible AI ethics principles will be disqualified.

Submission Integrity:

- Late submissions or incomplete submissions (missing video, code repository, or technical documentation) will not be considered.
- Attempts to tamper with or alter submission after the final deadline will result in immediate disqualification.

Topics for Hackathon

Project Code	Topic	Objective	Expected Outcome
MS-AI-01	AI-Powered Virtual HR Assistant	Automate HR queries, resume screening, and candidate evaluation	AI chatbot that assists HR functions, screens resumes, and provides candidate insights
MS-AI-02	AI-Based Contract Review System	Extract and summarize legal clauses from contracts	Automated contract analysis tool ensuring compliance and risk assessment
MS-AI-03	AI Chatbot for Customer Retention Strategies	Improve customer engagement using AI-powered chatbot interactions	AI-driven chatbot with sentiment analysis to enhance customer loyalty
MS-AI-04	AI-Based Automated Product Descriptions	Generate AI-powered product descriptions for e-commerce	AI-generated descriptions tailored for SEO optimization
MS-AI-05	AI-Powered Document Classification System	Categorize and index documents using AI	Automated system that tags and classifies documents for easy retrieval
MS-AI-06	AI for Automated Legal Compliance Auditing	Analyze and ensure corporate compliance	AI-powered legal auditing system that highlights non-compliance issues
MS-AI-07	AI-Enhanced Automated Interview Screening	Conduct AI-driven pre-interview screening	AI tool that evaluates candidates based on predefined criteria
MS-AI-08	AI-Powered Real-Time Stock Market Insights	Provide financial insights using AI	AI-generated stock market summaries and financial trend analysis
MS-AI-09	AI-Based Personalized Investment Portfolio Generator	Create AI-driven investment portfolios based on risk analysis	AI-powered financial tool providing portfolio recommendations
MS-AI-10	AI for Automated Insurance Claim Processing	Automate insurance claim validation and fraud detection	AI-based claims assessment and fraud detection system

MS-AI-11	AI-Based Medical Image Analysis and Diagnostics	Detect medical anomalies in images using AI	AI-powered medical diagnostic tool analyzing X-rays and MRIs
MS-AI-12	AI-Powered Mental Health Emotion Analyzer	Analyze emotional sentiment in text, voice, and images	AI-based emotional health monitoring and mental health assistance
MS-AI-13	AI for Smart Financial Fraud Detection	Identify fraudulent transactions using AI	AI-driven fraud detection system for financial transactions
MS-AI-14	AI-Based Real-Time Translation for Video Conferencing	Provide real-time multilingual translations	AI-powered real-time speech translation and transcription tool
MS-AI-15	AI-Powered Knowledge Graph Generator for Enterprises	Create AI-driven enterprise knowledge graphs	AI-generated structured knowledge graphs for business intelligence
MS-AI-16	AI for Automated Social Media Engagement Analysis	Analyze social media sentiment and trends	AI-powered tool that tracks brand sentiment and engagement
MS-AI-17	AI-Based Automated Email Response System	Automate email responses based on sentiment and intent	AI-driven email categorization and response generation system
MS-AI-18	AI-Powered Legal Chatbot for Consumer Rights	Assist users in understanding legal rights	AI chatbot that provides legal guidance on consumer issues
MS-AI-19	AI-Powered Customer Sentiment Analyzer for Businesses	Analyze customer feedback for business improvement	AI-powered sentiment analysis system for product and service reviews
MS-AI-20	AI-Driven Voice Cloning for Personalized User Assistance	Create AI-generated personalized voice assistants	AI-powered voice cloning for digital assistants
MS-AI-21	AI-Based Smart Resume Scoring System	Score resumes based on job criteria	AI-driven resume evaluation and ranking system
MS-AI-22	AI-Powered Automated Video Editing for Content Creators	Automate video editing tasks	AI-assisted video processing and content curation tool
MS-AI-23	AI-Driven Retail Customer Buying Pattern Predictor	Predict consumer buying behavior	AI-based analytics for customer purchase trends
MS-AI-24	AI-Based Automated Disaster Relief Allocation System	Optimize disaster response resource allocation	AI-powered disaster response planning and relief optimization

MS-AI-25	AI for Real-Time Traffic Congestion Analysis	Analyze traffic patterns and predict congestion	AI-driven traffic monitoring and congestion prediction system
MS-AI-26	AI-Based Personalized Medical Treatment Plan Generator	Generate AI-powered treatment plans	AI-driven medical decision support system for treatment recommendations
MS-AI-27	AI-Driven Real Estate Property Value Predictor	Predict property values using AI	AI-powered real estate valuation system
MS-AI-28	AI-Powered Automated Cybersecurity Threat Detection	Identify and mitigate cyber threats	AI-driven anomaly detection for cybersecurity threats
MS-AI-29	AI for Automated News Fact-Checking	Detect misinformation in news articles	AI-based system that verifies news authenticity
MS-AI-30	AI-Based Smart Travel Assistant	Provide AI-driven travel recommendations	AI-powered itinerary planner and trip assistant
MS-AI-31	AI-Powered Personalized Diet and Nutrition Plan Generator	Generate AI-based diet plans	AI-driven meal and nutrition planner based on user health data
MS-AI-32	AI-Based AI Code Refactoring and Optimization Tool	Optimize and refactor code using AI	AI-assisted code analysis and optimization tool
MS-AI-33	AI-Powered Personalized Learning Path Generator	Personalize learning experiences using AI	AI-generated adaptive learning recommendations for students
MS-AI-34	AI-Powered Automated Resume Generator	Generate AI-crafted resumes based on job descriptions	AI-assisted resume generation tool
MS-AI-35	AI-Powered Personalized Ad Generator	Create AI-driven advertising campaigns	AI-based ad content generation and targeting system
MS-AI-36	AI-Based Social Media Post Generator	Generate AI-crafted social media posts	AI-powered tool that creates engaging social media content
MS-AI-37	AI-Powered Content Moderation System	Automate content moderation for platforms	AI-based system for detecting inappropriate or harmful content
MS-AI-38	AI-Powered Financial Report Summarizer	Generate AI-driven financial insights	AI-powered summarization of financial reports and trends
MS-AI-39	AI-Powered Chatbot for Career Guidance	Provide AI-powered career guidance	AI-driven chatbot that offers career recommendations based on skills

MS-AI-40	AI-Powered Automated Task Prioritization System	Optimize daily task management	AI-powered productivity tool for automated task prioritization