


inspired
global camps

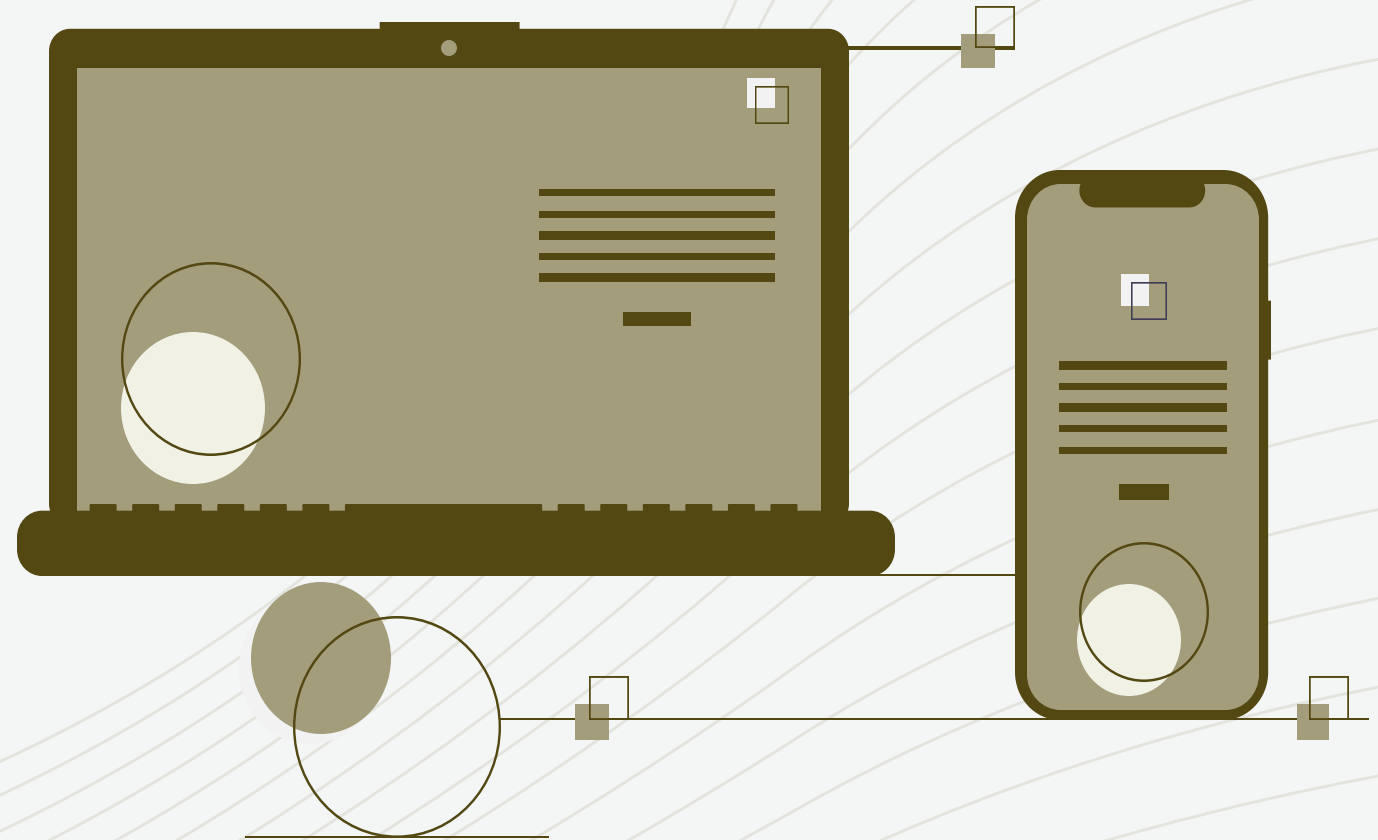
 **MIT** Bootcamps
Open Learning

PHAROS EDUCATION
Learning Reimagined

MIT FutureBuilders Bootcamp 2024

An Inspired Global Camp at Reddam
House, Berkshire

Embark on an innovation and AI journey guided by MIT Bootcamps



Why the MIT FutureBuilders Bootcamp program?

The MIT FutureBuilders Bootcamp programme, an Inspired Global Camp working together with MIT and Pharos, caters to inquisitive high school students who aspire to effect positive change in the world and enjoy collaborative problem-solving with peers using technology while having a great time.

Within this immersive program, students delve into designing and constructing mobile apps with MIT's AppInventor, leveraging generative AI, data science, and Internet of Things (IoT) concepts. Additionally, insights from the Innovation Leadership Toolkit, offering a structured approach to entrepreneurial exploration, are applied. Students' newfound knowledge and skills will be showcased through peer presentations and a culminating capstone project – the Innovation Demo.

MIT FutureBuilders are encouraged to engage directly with technology and collaborate with peers on a self-selected capstone project. Throughout this journey, participants have access to a supportive network of MIT mentors and instructors, facilitating personalized growth and learning.

The overarching aim is to nurture students' confidence in their potential as innovators and to introduce them to the realms of AI, data science, IoT, and app development. This immersion fosters a risk-free environment for learning and applying new skills, all within a collaborative and enjoyable setting. Technical prerequisites are non-existent; all that's required is students' enthusiasm and eagerness to learn, explore, create, and innovate.





Key Program Information

A one-of-a-kind opportunity for students to immerse themselves in a college-like experience alongside one of the world's top universities, connecting with like-minded peers from diverse locations.

01. Dates & Locations

- Online modules: Oct 8 -Oct 24, 2024
- Residential week: Oct 27-Nov 1, 2024

02. Age Groups

- Students from 15-18 years old

03. Academics

- 10 learning modules, each of ~7 hours, totaling 70+ hours of learning

04. Location

- Modules 1-4: remote (mandatory)
- Modules 5-10: Reddam House, Berkshire, United Kingdom

05. Price

- 5,000 EUR per student

*Inclusive of the academic program, boarding and meals

06. Beyond the program

- Certificate of Completion for students who successfully finish the program

Reddam House Berkshire, United Kingdom



The MIT FutureBuilders Learning Journey

A transformative cohort-based learning experience designed for high school students passionate about AI, Innovation & Entrepreneurship

In this program, the focus will be on four primary objectives:

01

Innovation and Idea Generation

The program emphasizes various techniques for generating innovative ideas, understanding customer needs, and conducting primary market research. The learning goal here is to equip students with the skills to identify socially meaningful challenges and develop human-centered solutions through creative thinking and market analysis.

02

Technical Skills Development

Throughout the program, students immerse themselves in technical skill development, including mobile app development using platforms like AppInventor, integration of generative AI and data science concepts, and beginner to intermediate-level IoT development. The learning goal is to empower students with the technical prowess needed to bring their innovative ideas to life through hands-on experience and practical application.

03

Collaborative Problem-Solving

A significant portion of the program is dedicated to team-building activities, collaborative design jams, and mock pitches. The goal is to foster a collaborative learning environment where students can work together, share ideas, and refine their solutions through peer feedback and mentorship, ultimately preparing them for real-world challenges where teamwork is essential.

04

Business Acumen and Pitching

Towards the end of the program, students engage in sessions focused on product development, business modeling, and venture pitching. The learning goal is to equip students with the skills to effectively communicate their ideas, creating a working demo of solution to a real-world problem, and pitch their solutions to expert panels.

The MIT FutureBuilders Bootcamp Learning Journey

Program Format

This is an immersive program, offering participants an in-person portion as well as a virtual one.

- **Modules 1-4 (online):** students engage in a mix of lectures, interactive activities, and case studies to explore real-world problem. The emphasis is on understanding core concepts and acquiring essential technical skills through a variety of learning methods.
- **Modules 5-10 (on-site):** Students engage in a learning sprint, honing technical skills while identifying real-world challenges and stakeholders. Collaboration with stakeholders begins to craft innovative solutions. They also focus on design jams and pitch practice for capstone project delivery.



The MIT FutureBuilders Bootcamp Learning Journey

Learning Modules

Day	Module	Innovation Toolkit Topic	Learning goals
Day 1	Team Building	Introduction to the ApplInventor platform	ApplInventor immersion session focusing on foundational skills
Day 2	Generating Ideas	Continuing discussions on idea generation and refinement	Further development of mobile app development skills with a focus on idea implementation
Day 3-4	Understanding the Customer	Customer segmentation and market analysis	Implementation of genAI and data science techniques in mobile app development
Day 5-6	Developing Products	Introduction to AI	Beginner and intermediate-level GenAI and AI-based games and ethics
Day 7	Interview Studio and Pitches	Introduction to IoT concepts for beginners and intermediate learners	Beginner and intermediate-level IoT development
Day 8-9	Design Jam Sessions	Product development and business modeling	Integration of mobile app development, genAI, data science, and IoT concepts into comprehensive projects
Day 10	Innovation Demo	Developing and presenting a venture pitch deck	Finalization and presentation of comprehensive projects showcasing all learned technical skills and innovative ideas

Each day is dedicated to a specific learning module. Expect to allocate ~7 hours per module, totaling 70+ hours for the entire program. Sessions longer than 1 hour will include a 5-minute break.

- The initial six modules represent a learning sprint, during which students will learn and practice technical skills. They will also identify socially significant real-world challenges and engage with stakeholders to develop innovative solutions.
- In the final four modules, students will participate in design jams and pitch practice sessions to prepare for presenting their capstone projects. The culmination involves delivering a demo in a pitch-style competition before an expert panel of judges. These last four modules provide an opportunity for students to integrate and practice their new skills.

Timetable – Online Modules

Online	Module 1	Module 2	Module 3	Module 4
Session 1: 17:00-18:30pm	Program KickOff Intro to App Inventor IDE Tuesday October 8th	Review Digital Doodle My Piano App (starter) Sunday October 13th	Find Gold (simplified starter) Thursday October 17th	Townhall (Technical and Program AMA) My To Do List Tuesday October 22nd
Independent Work: 1-2 hours	Set up your own App Inventor IDE and practice Watch select Entrepreneurship 101 videos and complete any formalities	Ball Bounce app Tutorial	Individual work and teamwork interviews	Individual and Team interviews continued
Session 2: 17:00-18:30pm	Team Creation session: Hello Codi Introduction to Working with Humans and Team Charter Meet your mentors Thursday October 10th	Review Ball Bounce: How to Get Ideas Intro to Hunches: Where do good problems come from? Computational Action Curriculum - Brainstorming Techniques How to write a problem statement Tuesday October 15th	Introduction to Primary Market Research Understanding Users and Communities Translation App Sunday October 20th	CloudDB Chat App Review Session with mentors in teams Reviewing technical set up and team problem statements and PMR report feedback Thursday October 24th
Teams Work on Homework Assignment (Team Deliverable): 1-2 hours	Team Deliverable: Team Charter Digital Doodle Tutorial	Team Deliverable: Individual Brainstorming session using Computational Action Worksheet Select top hunches to explore as a team	Team Deliverable: Primary Market Research - Individual Interviews with Potential Users	Team Deliverable: Team technical readiness (teams help each other to finalize AppInventor setup_ Team finalizes a list of ideas they would like to work on Team Create an impact matrix for their original idea Team barometer survey

Timetable – Residential Week

	Sunday (Oct 27)	Monday (Oct 28)	Tuesday (Oct 29)	Wednesday (Oct 30)	Thursday (Oct 31)	Friday (Nov 1)
Module:	Supervised Learning + GenAI	AI-based games and AI ethics	Data Science and IoT	Design Jam	Building the App	Demo Day
0800 - 0930	In-Person Launch PMR and Idea debrief, Technical program overview.	Review of HW Facemesh Camera (starter)	Review of HW Introduction to Data Science and Micro:bits	Ice Melt (data analysis for assessing climate change)	Build the App	Final Feedback Session
0930 - 0945	Short Break	Short Break	Short Break	Short Break	Short Break	Short Break
0945 - 1115	Generative AI Simple ChatGPT app Simple ImageBot app	Awesome Dancing with AI (PoseNet-based game)	Ecobits Explorers (plant soil monitoring with Micro:bit sensors)	“Building your Own App to Save the World” workshop	Build the App	Round 1 Pitches and Demo
1115 - 1130	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
1130 - 1300	Personal Image Classifier (PIC): PICaboo)	Build the App Design Jam	Build the App Design Jam	Build the App	Build the App	Round 2 Pitches and Demos
1300 - 1400	Short Break	Short Break	Short Break	Short Break	Short Break	Short Break
1400 - 1530	Build the App Design Jam (genAI or PIC)	Customer Segmentation and Lifecycle Use case	Build the App	How to Pitch Session	Mock Pitches	Award Ceremony and Graduation
HOMEWORK (technical + entrepreneurship)	Teachable Machine Teams read about the principles of good UX	Tour Guide demo Resources		Building the app and the pitch	Building the app and the pitch	

Final programme is subject to changes. All times zones displayed in UK time.



Learning Process

- Individual Study: Before the program begins, students will access prerequisite materials online, including videos and readings curated by MIT.
- Innovation Studios: Led by MIT, these live sessions focus on techniques from the Innovation Leadership Toolkit. Students practice acquired knowledge through team exercises, with sessions recorded for reference.
- App Building Tutorials: Hands-on sessions with MIT mentors cover app development using modern technologies like AI, IoT, and data science.
- Technical Review Sessions: Short daily sessions address previous day's questions, combining individual and team work with mentors.
- Independent Teamwork with Mentors: Teams work with dedicated MIT mentors who offer technical and entrepreneurial expertise, reviewing team deliverables.
- Guest Speaker Sessions: Entrepreneurs and technical experts share practical insights in live sessions, offering direct experiences to students.
- Design Jams: a high-intensity, case-based workshop that helps congeal the team around their capstone objective, e.g., the hackathon. It engages every team-member to actively contribute to their team, fill-in missing information and resolve potential conflicts, all to come up with a "quick-and-dirty" app solution to a given problem scenario all in a very short period of time.
- Team Mock Pitches: Dry runs of Innovation Demo presentations, followed by feedback from MIT mentors. Helps teams prepare for final pitch delivery.
- Final Demo Session: Teams present summaries of their capstone projects in Innovation Demo pitches to the class audience, including mentors and guests.
- Assignments: Focuses on learning by doing as a team, practicing technical skills and utilizing the Innovation Leadership Toolkit.

Students will receive a certification of completion from MIT Bootcamps at the end of the program

MIT Bootcamps will offer a certificate of completion to students who have satisfactorily demonstrated participation and completion of the learning program and/or mastery of the learning program material. We expect learners to successfully work with their team (meet the expected contribution as agreed upon) throughout the program and to participate in the final demo preparation and pitch. Certificates will be issued by and under the name of MIT Bootcamps.



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To book you may either call or email the camps or alternatively book directly via the website booking form. When booking via the website you will be asked to fill out the camp application form, when this has been submitted you will receive an invoice via mail, and then pay a deposit to reserve space.

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Website:

rhb.campmanagment.com/enroll



PHAROS EDUCATION

Learning Reimagined

MIT is working with online education provider Pharos Education to offer MIT FutureBuilders Bootcamp, a high impact outcomes-oriented program. This program is provided by and quality assured by MIT to leverage their thought leadership in technical practice developed over decades of expertise.