



## Imagine Cup Overview

### What Is Imagine Cup?

Founded in 2003, Microsoft's Imagine Cup is the company's premier student technology and innovation competition. It provides an opportunity for student technologists, developers and aspiring entrepreneurs from all academic backgrounds to collaborate, develop a technology application, create a business plan and gain a keen understanding of what is needed to bring a concept to market. In Imagine Cup, the brightest young minds join together to exemplify the power of student innovation. This year we are celebrating the 16<sup>th</sup> anniversary of Imagine Cup by adding three special awards that represent the current state of digital transformation: Artificial Intelligence, Big Data and Mixed Reality. The World Champion can win up to [\\$100,000 and a mentoring session with our CEO, Satya Nadella](#). Complete prizing information can be found below.

### How Does Imagine Cup Work?

Students compete in teams of up to three people to create an original technology project from start to finish – create an idea, make a plan, build the solution and compete.

Students advance through various rounds of the competition either online or through in-person National Final events organized by Microsoft subsidiaries in countries across the globe. The winning teams from each country move on to World Finals in Seattle. Winners are awarded travel to the Imagine Cup World Finals, where they compete for cash prizes and once-in-a-lifetime experiences. The Imagine Cup World Finals are in **Seattle, Washington, USA, July 23 – 25, 2018**.

### What has changed for 2018?

- Competitive prizing of \$85,000 for the winning team and an additional \$15,000 each given to the three teams who win the Imagine Cup Awards in Big Data, Artificial Intelligence, and Mixed Reality.
- Three teams will compete in the Championship for the top prize.
- Solutions are not bound by category requirements – all innovations are welcome and compete against each other without groupings or classifications however, teams have the option of competing in the Imagine Cup Awards.
- The competition will be executed in a head to head tournament fashion, where teams, by rankings (known as seeds), will be placed in the semi-finals Tuesday, July 24.
- The Quarter Finals round has been eliminated this year in lieu of the Imagine Cup Awards.
- The Wild Card round will allow 3 teams previously eliminated to be brought back into the competition.
- The event will be streamed live online, the morning of Wednesday, July 25 at 9 am PT.

### 2018 Imagine Cup World Finalist Teams

Here are the 49 teams coming to Seattle to compete for the 2018 Imagine Cup World Championship:

Team Name	Country	University	Project Description
<a href="#">Lexa</a>	Argentina	Buenos Aires Institute of Technology University of Buenos Aires	Lexa is a platform for giving transparency, eliminating fraud, and bringing the digital era to the medical industry. Through open blockchain technology and machine learning algorithms, the goal is to increase patient trust in the healthcare system.
<a href="#">Team TBC</a>	Belarus	American University of Armenia Secondary School №11 the town of Slutsk	Our project uses a neural network to determine psychogeometric characteristics of a person from photographs, which allows more effective communication according to their individual characteristics, with a focus on business and sales settings.
<a href="#">ADAM Robo</a>	Brazil	Centro Europeu	ADAM Robo is a visual acuity screening software used to test and prevent common vision problems. ADAM uses bot conversation guiding an individual along anamnesis and vision tests which can identify possible refractive errors such as myopia, hyperopia, presbyopia, and astigmatism, as well as Daltonism.
<a href="#">smartARM</a>	Canada	University of Ontario Institute of Technology University of Toronto	smartARM is a robotic hand prosthetic, created using Microsoft Azure Computer Vision, Machine Learning and Cloud Storage. The robotic hand uses a camera embedded in its palm to recognize objects and calculate the most appropriate grip for an object. Using Machine Learning, the more the model is used the more accurate it becomes.
<a href="#">Muma</a>	Canada	University of Toronto	Muma created a music matching service that can help identify music usage online to capture revenue for its customers. The project combines multi-layered convolution neural networks and data analysis or peripheral information (such as comments on a YouTube video) to produce accurate lyrics, and makes a wide range of content accessible to the hearing impaired.

<a href="#">Hachy</a>	Canada	University of Waterloo	Hachy aims to provide an easy way for farmers to identify the development status of an egg by enabling autonomous egg development identification and tracking using Machine Learning.
<a href="#">ShowNM</a>	China	Tsinghua University	ShowNM helps to overcome the difficulties of quantitative diagnosis of Parkinson's disease. Combining deep learning with signal processing, this project utilizes the convolutional neural network to extract features from Parkinson's disease patients' surface electromyography. It then can grade their states according to a nonlinear classifier. With this method and its small, light instrument, doctors will be able to give the right therapy to patients.
<a href="#">Peppa Team</a>	China	Sichuan University	Peppa Team created a toy car to diagnose ADHD and train a child's ability to focus. The app can provide the results of early examination, real-time detection, and adjuvant therapy. It is not only a wonderful combination of brain-computer interface and deep learning, but also a breakthrough in the application of Recreation Therapy, achieving painless and convenient diagnosis and treatment.
<a href="#">BeachSafer</a>	Egypt	Cairo University	BeachSafer aims to make swimming safer using a smart integrated IoT solution. It provides a real-time monitoring and supervision dashboard on a swimmers' state and location through a lifeguard mobile app and smart wearable devices for swimmers. Biometrics are used to detect drowning risk and initiate an automated rescue procedure.
<a href="#">Theatrall</a>	France	École Polytechnique	Theatrall aims to make theaters accessible for everyone through simple software available on smartglasses, smartphones, or tablets, which will display the production subtitles in the language chosen by the user.
<a href="#">Soul Sailor</a>	Germany	Technical University of Munich	Soul Sailor is a platform that provides psychological care for refugees and asylum seekers, including a chatbot to help individuals process their experiences while seeking refuge.

<a href="#">NASC</a>	Germany	Karlsruhe Institute of Technology	NASC is a web app that searches for news articles on the web and attempts to evaluate sentiments in the articles. The goal is to encourage people to read beyond the first search result for important stories, and to look at multiple articles that express different views.
<a href="#">Pavo</a>	Germany	Rhine-Waal University of Applied Sciences	Pavo Vision makes websites more accessible to visually impaired users. Utilizing AI, images, and other tools, non-readable website content will be analyzed and made available to visually impaired people. Mistakes in analysis can be fixed and the algorithm will get smarter over time by utilizing crowd-sourcing to generate more accurate descriptions.
<a href="#">StudySmarter</a>	Germany	Ludwig Maximilian University of Munich Technical University of Munich	StudySmarter utilizes Machine Learning to provide students with a platform to make learning more efficient and motivating. Students are connected with each other, and algorithms automate and create learning materials and provide feedback on individual progress.
<a href="#">iCry2Talk</a>	Greece	Aristotle University of Thessaloniki	iCry2Talk proposes a low-cost and non-invasive intelligent interface between the infant and the parent that translates in real time the baby's cry and associates it with a specific physiological and psychological state, depicting the result in a text, image and voice message.
<a href="#">Tale</a>	Hong Kong	Hong Kong University of Science and Technology University of Hong Kong	Tale is a presentation coach which gives feedback to users rehearsing a presentation or speech. The solution provides a professional artificial intelligence platform to help people rehearse their presentation performance anytime and anywhere. The professional AI considers different presentation dimensions and analyzes the video. After analysis, the AI gives instant feedback to the users, showing analytics results and suggestions to help in preparing for interviews, school presentations, and more.

<a href="#">innobie</a>	Hungary	John von Neumann University University of Novi Sad, Faculty of Sciences	innobie is a smartphone app to help students understand the curriculum they are reading in textbooks. The app projects a 3D image over 2D illustrations in books, and can help elementary students learn biology, chemistry, geography, history, and more through this interactive platform.
<a href="#">RealVol</a>	India	Indraprastha Institute of Information Technology, Delhi	RealVol features a virtual reality based immersive walkthrough for CT and MRI scans. It uses an advanced volumetric algorithm to directly convert 2D CT and MRI scan images to 3D volumes for interactive visualizations by doctors and patients.
<a href="#">Drugsafe</a>	India	R.V. College of Engineering	Drugsafe was developed to provide multi-layered checks to validate genuine drugs and decrease illness from counterfeit drugs. Using an app with three unique checks, drugs are quickly validated as safe or not safe, and the user is immediately notified.
<a href="#">Practikality</a>	India	Amity International School	Practikality is a 3-in-1 solution to help individuals with a speech impairment, hearing impairment or visual impairment. VOICE gives an expressive output by closely matching human speech; EASI has a customizable database which allows a person to add personal signs which reduces the time lag between interpretations; VISION has features like face recognition and environmental analysis to make every day navigation easier.
<a href="#">Beehive Drones</a>	Indonesia	University of Manchester	Beehive Drones is a project that applies the Internet-of-Things based swarm drone technology as a new approach to solve the global increasing demand for food. A cooperative drones system is used to monitor crops and is accessible to farmers via mobile applications. Using the monitoring data, the system provides suggestions to farmers on their crops: whether they need more fertilizer, pesticide, or they are ready to be harvested.
<a href="#">Mediated Ear</a>	Japan	University of Tokyo	Mediated Ear is software for hearing-impaired individuals to focus on a specific speaker among a multitude of conversations. Mediated Ear can relay

			specific sounds in audio waveforms through deep learning.
<a href="#">Emergensor</a>	Japan	University of Tokyo Southern Mindanao Colleges	Emergensor is a web service which provides security information for people living in conflict-affected areas through mobile application. It analyzes collective peoples' behavioral data in the case of emergency and has the potential to automatically analyze the behavioral maps through deep learning to share appropriate information to users. This security information helps provide security to those living in conflict-affected regions.
<a href="#">ezaki-lab</a>	Japan	National Institute of Technology, Toba College	ezaki-lab created an Artificial Intelligence and Machine Learning system that can automatically feed surface fish, such as red sea bream and pseudocaranx dentex, through detecting the optimal feeding amount for the fish, and determining how to automatize food dispensing.
<a href="#">En#22.45km</a>	Korea	Sejong University	This project supports emergency room operations by providing a solution to effectively monitor and categorize emergency calls. The system transcribes the caller's statements and analyzes them in real-time to classify the specific category of the problem. Once classified, the program suggests the appropriate manual for emergency room staff.
<a href="#">CLASSUM</a>	Korea	KAIST	CLASSUM is a UI/UX-based interactive learning platform which provides students with a forum to ask questions. The goal is to increase class participation by utilizing a system through which students are comfortable asking question of teachers and each other.
<a href="#">PINE.</a>	Malaysia	Tun Hussein Onn University of Malaysia	PINE. is a Machine Learning based non-invasive sensor to measure and categorize pineapples based on their sweetness. The goal is to enable Malaysian farmers to reduce waste and increase efficiency when evaluating their produce by predicting a pineapple's ripeness before harvesting.

<a href="#">ERANOI</a>	Mexico	Instituto Tecnológico de Cuiacán Veracruz Institute of Technology	ERANOI created a monitoring system through a pocket-sized IoT device that measures in real-time the vital signs of patients such as: temperature, humidity, heart rate, blood oxygen and heart electrical activity. RedBeat collects the data and automatically sends it to a dashboard shared with the patient's doctor, all powered by Azure Cloud. More than just a monitoring system, Redbeat is a smart control system that can help prevent diseases such as heart attacks and strokes.
<a href="#">DeafKIT</a>	Moldova	Lomonosov Moscow State University	DeafKIT is an automatic solution for sign-language translation based in neural networks. Translations are provided with video capturing to make communication easier and more effective.
<a href="#">SochWare</a>	Nepal	College of Information Technology and Engineering Madan Bhandari Memorial College Nepal Engineering College	SochWare designed a solution called E-Agrovet to help farmers identify plant diseases, suggest mitigation strategies, connect with experts, and get updated with recent agriculture findings. Additionally, the solution will also enable farmers to alert nearby harvesters about their crops with the goal of reducing the need for pesticides in farming.
<a href="#">Team Sentinel</a>	New Zealand	University of Auckland University of Canterbury	Sentinel is an intelligent tool that reimagines the way we manage tank water supplies. The team is working to create a platform that facilitates a toolkit with everything from autonomous supply management, to sustainable tips and forecast insights. With key relationships to industry leaders in property management and agricultural, the team strives to bring an industry-standard IoT platform to meet the real problems faced by companies.
<a href="#">Hypebeat</a>	New Zealand	University of Auckland	"Making it" as a musician in the new age of digital music, streaming and social media is just as much about doing what works for your brand and business as it is about great music. Hypebeat helps to show musicians what works so they can achieve their creative vision.

<a href="#">UniRide</a>	New Zealand	University of Auckland	UniRide is a phone app that will be available on iOS and Android. It is targeted towards students and helps those frustrated with public transport make the transition to carpooling as a faster, cheaper, and more social alternative. UniRide seamlessly facilitates the process of finding, creating and managing a carpool between students.
<a href="#">Fe Amaan</a>	Pakistan	NUST School of Electrical Engineering and Computer Science	Fe Amaan is a wearable belt which regularly monitors fetus health through an IoT sensor device which is placed on a mother's abdomen. The device captures the fetal heart rate and movement and sends it via Bluetooth to a mobile app. The main features of this system are to provide automated analysis of fetal health on a regular basis without harming the mother or child. As the system makes remote monitoring of the fetus possible, it aims to reduce the high rate of intrauterine deaths and stillbirths in Pakistan.
<a href="#">Wavy</a>	Poland	Lodz University of Technology Warsaw University of Technology	Wavy is an underwater localizer for scuba divers. The team is creating a Big Data system to analyze and use the information to create diving logs, improve tourism, and support research about the influence of water pressure on human bodies. The system will also send tracking data to diving supervisors.
<a href="#">VisionX</a>	Romania	Politehnica University of Timișoara	VisionX is a system designed to automatically detect anomalies and diseases encountered anywhere in the human body with radiologist-level accuracy, by analyzing common medical X-ray images with the help of the latest Azure technologies, such as Machine Learning and Azure Functions. The product will provide a much-needed solution for people in areas of the world that lack access to radiology diagnostics while also acting as an assistant tool for the medical experts examining radiographies.
<a href="#">Coffee Break</a>	Russia	Lomonosov Moscow State University	The team developed a project for the recognition of varieties and taste characteristics of wine and coffee based on their spectral characteristics



			<p>using machine learning algorithms. Coffee Break is shooting the spectra of known brands in the laboratory, translating them into vector representation, and training a gradient boosting model. Using this approach, the team hopes to match each brand of goods with its unique digital representation in the form of its spectrum.</p>
<a href="#">Team 7x</a>	Singapore	<p>Nanyang Polytechnic</p> <p>Nanyang Technological University</p>	<p>Team 7x created the ProcubeX, an autonomous, fun and smart learning tool designed to help individuals learn and cope better with dyslexia. Equipped with different interactive features, along with machine learning based lessons, each individual student will be assigned lessons that will suit their strengths, weaknesses and experience. This will also help caretakers and teachers assess dyslexic students' progress.</p>
<a href="#">Biolegend</a>	Taiwan	<p>National Chung Hsing University</p> <p>National Taiwan University of Science and Technology</p>	<p>"Bioknee" is a rehabilitation system providing clinical therapists and patients a communications platform during a procedure. It can predict the time to heal through Machine Learning, encouraging the patient to continue rehabilitation.</p>
<a href="#">BeeConnex</a>	Thailand	King Mongkut's University of Technology Thonburi	<p>The BeeConnex team designed and developed an IoT-based solution for beekeeping called the Smart Hive. Their solution captures sound, images, weight, and humidity from inside the hives, and transmits the data to the cloud. Signals are then processed and classified using techniques including: signal processing, feature extraction and deep learning. Beekeepers can remotely monitor several hives in real-time and can be notified instantly when an abnormal situation arises.</p>
<a href="#">Proland</a>	Turkey	Koç University	<p>Proland is a machine learning solution aimed to solve problems of inefficiency for agriculture and agriculture-related activities. The model is built on Azure Machine Learning Studio using historical temperature, precipitation and ton/acre yield values for land, allowing farmers to make the best</p>

			agriculture choices for their land condition.
<a href="#">InterviewBot</a>	United Kingdom	University of Manchester	InterviewBot is a web-based application tailored to aid students with video or physical interviews when applying for jobs. It gives real-time feedback on interview-style questions. Companies can also use this tool to assess their candidates' performance, with the written transcript allowing employers to dissect the interview in detail.
<a href="#">Black Light</a>	United Kingdom	Abertay University	BlackLight's project, Firepoint, is a First-Person MR simulator, built around helping firefighters explain and display what their daily work environment is like without putting anyone at risk. The simulator allows users to see through the eyes of a firefighter as they make their way through a multi-story training ground with a variety of different encounters to tackle. The goal is to use this tool to help firefighters in community outreach, recruitment, and training.
<a href="#">Pengram</a>	United States	University of California, Berkeley	Pengram is an AR/VR platform which allows engineers from around the world to be holographically 'teleported' into a workspace when needed. For example, if an operator repairing a \$100,000 medical device needs help, they will be able to wire into the service, and using a Hololens can watch an expert perform the repairs in 3D.
<a href="#">Boomerang</a>	United States	Johns Hopkins University University of California, Berkeley	Boomerang is a suite of applications that builds a network of support around asthmatics. The patient-specific mobile application uses an affordable device to detect an out-of-range or in-range inhaler, notifying the user when appropriate. Boomerang builds a more accurate assessment of high-risk environments for asthma attacks--in such scenarios, Boomerang partners with mobile assistants such as Siri or Cortana to preemptively draw attention to the inhaler or reach out to appropriate members of the user's network, building a community of patient-centered support.

<a href="#">Loro</a>	United States	Harvard University Massachusetts Institute of Technology	Loro is a platform for providing a smart companion robot for wheelchair users. Loro integrates several technologies including: a universally mountable 360 camera, a laser pointer, a flashlight, an alarm system, and a user-friendly interface. Loro is designed to provide the users with intelligent navigation, health monitoring, social interaction and smart home connectivity.
<a href="#">Team Prometheus</a>	United States	Arizona State University	Prometheus combines surveillance drones and concepts of machine learning to detect wildfires while they are still in their early stages. The concept is to leverage the vast amount of wildfire images and videos available on the internet to train a machine learning algorithm to detect the presence of a fire. A drone then flies over parks and forests collecting the images, and an algorithm will determine the confidence level for if a region is about to develop a fire.
<a href="#">Vinculum</a>	United States	Northwestern University Rensselaer Polytechnic Institute University of Massachusetts Amherst	Vinculum leverages image processing and computer vision technology to determine if separated family members might be in another location and help reunite refugee families. The application determines a similarity score between a submitted image and the photos in the database. The application utilizes Microsoft's Cognitive Vision APIs and Azure ML models to determine a similarity score between two photos. The user will then be shown the top matches.
<a href="#">Zelixa</a>	United States	California Polytechnic State University, San Luis Obispo Chemnitz University of Technology Harvard University	Zelixa is a Hololens app and online learning platform built to help dyslexic kids learn to read. Aiming to tackle some of the biggest challenges facing dyslexia therapy today, Zelixa is the first app to uniquely combine mixed reality, gamification, and cutting edge scientific research into a tool that is immediately transferable, improvement-focused, and even fun.

### Fast Facts

- **49** teams from 33 countries will travel to Seattle to compete in Imagine Cup World Finals in July 2018.
- Imagine Cup competitors continue to show a passion for tapping into the power of technology to make the world around them a better place. Many teams have built cutting-edge technology solutions for the medical field across a variety of areas, including accessibility and the diagnosing of disease.
- To date, nearly 1.8 million students from over 190 countries have engaged with the Imagine Cup program.

### Prizing

The 2018 competition changes are designed to inspire students to use their imaginations and passion to create technology solutions built with Azure.

The **top three teams** will receive the following prizes:

- **First Place:** \$85,000 USD, \$50,000 Azure Grant
- **Second Place:** \$15,000 USD, \$40,000 Azure Grant
- **Third Place:** \$30,000 Azure Grant

The first-place team also wins a 1:1 mentoring session with Microsoft CEO, Satya Nadella.

The Imagine Cup Award winners will receive the following prizes:

- **Big Data First Place:** \$15,000 USD, \$30,000 Azure Grant
- **Artificial Intelligence First Place:** \$15,000 USD, \$30,000 Azure Grant
- **Mixed Reality First Place:** \$15,000 USD, \$30,000 Azure Grant