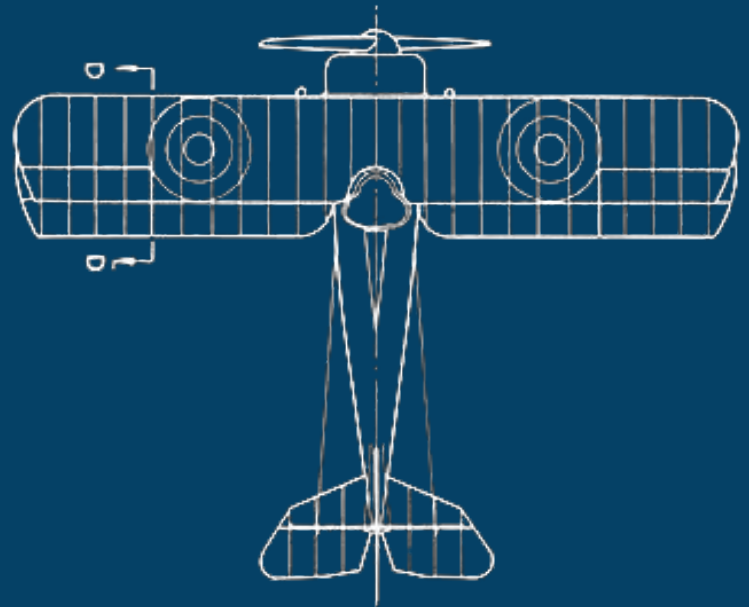


# tcg crest

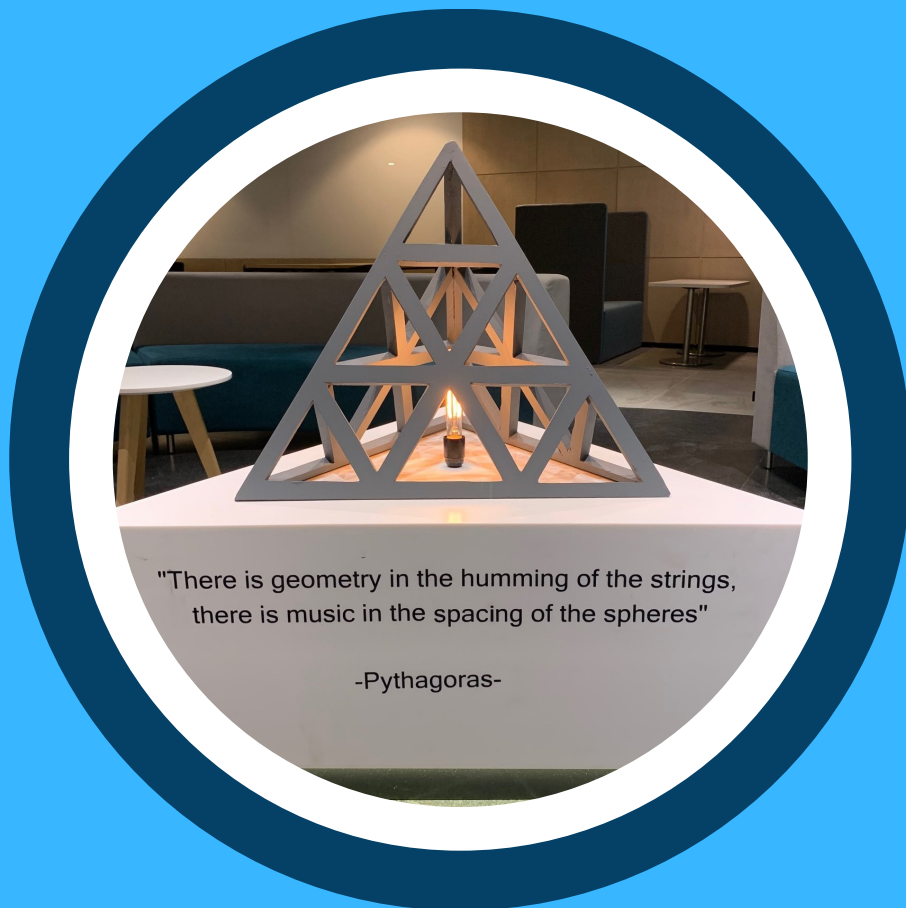
Inventing Harmonious Future



# AI GURU PROGRAM

TRANSFORMING ENGINEERS INTO TECH GURUS

TCG CREST is your  
education partner for life;  
not just another institute.



# Is AI GURU Program for me ?

If you are an engineer or studying engineering,  
the short answer is YES.





AI GURU Program  
is a pedagogic process





**based on**



Knowledge Creation

Knowledge Application

Knowledge Dissemination





**helps you to become**



**a Technology Guru**

# Let us gain clarity


Career is a life long journey and every success story has defined goals. The AI GURU mentors help you define goals. Surely, destiny will drive you to your desired destination.



# AI GURU Program

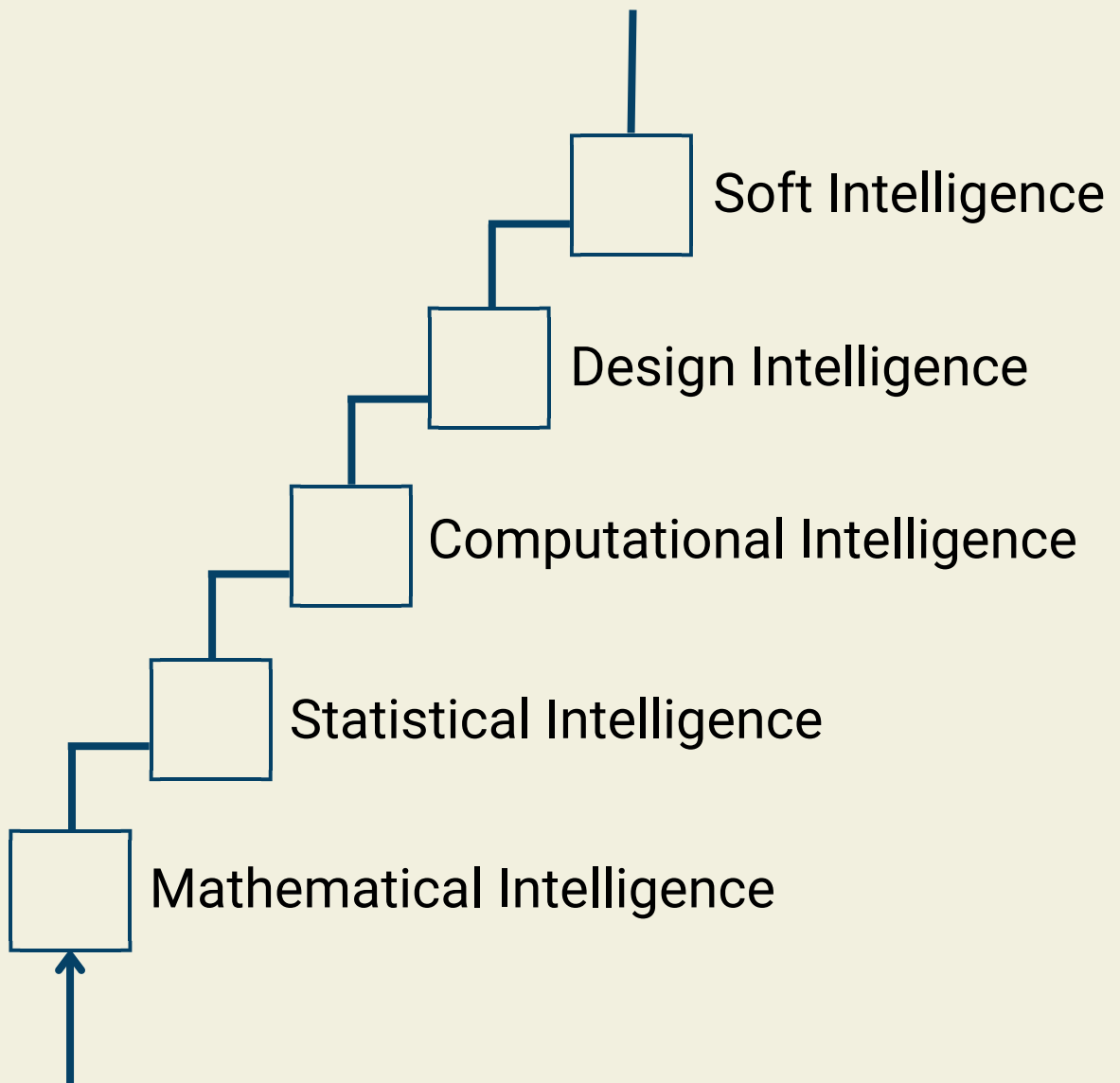
AI GURU Program is one-of-a-kind industry-driven, real-world and inter-disciplinary research-practice program for artificial engineering, machine learning, deep learning and design thinking.

## You, as a Tech Guru

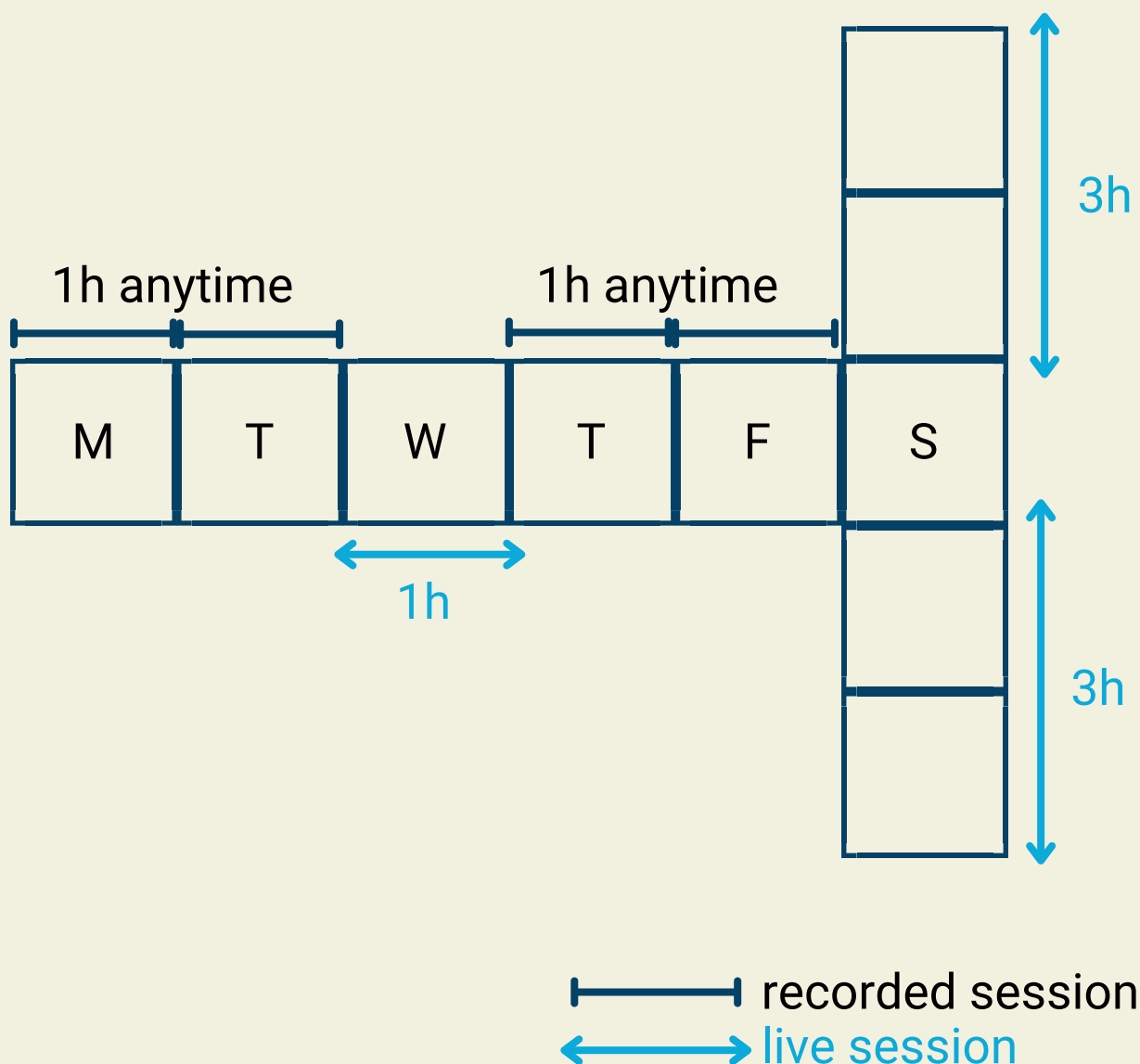
- 
- analyze causal relations
  - extract latent features
  - amplify reasoning, derive inference
  - formulate knowledge representation
  - recommend option & choice set
  - create digital prototypes & functions
  - embed forecasts, optimization & allocation
  - re-discover your analytical & computing skill

# Knowledge Creation

Starting from the basic fundamentals, the AI GURU PROGRAM teaches the five pillars of AI learning. The program provides a holistic education that is needed to become a modern technology guru, beyond the nuances of programming skills.



Every week, we organise a Concept Clinic explaining a single knowledge block needed to learn Artificial Intelligence & Deep Learning.



After every three weeks, there will be a weekly break. We all need our me time.

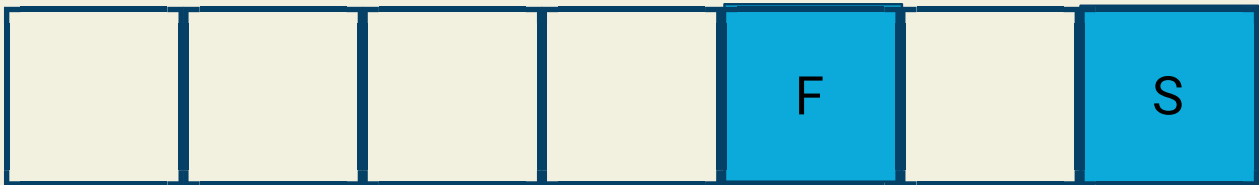
# Course Details

- Basics of Python
- Basics of the Deep Learning Library: PyTorch
- Essentials of Matrix Calculus & Linear Algebra for Machine Learning
  
- Bird's Eye View of Machine Learning
- Primer on Text, Video and Image Data Processing
- Gradients-based Optimization Techniques
- Rudiments of Artificial Neural Networks & Back propagation
  
- Step towards Deep Learning: Activation functions, Normalization techniques, Regularization methods and Loss functions
- Convolutional Neural Networks (CNNs)
  
- Backpropagation through time (BPTT)
- Attention Models and Transformer (BERT and Visual Transformer)
- Weakly Supervised Learning, Self-Supervised Learning
  
- Emerging Learning Strategies: Semi-supervised, Few-shot and Zero-shot
- Explainable Artificial Intelligence
- Geometric Deep Learning
  
- Diffusion-based Models
- Classic Real-world Application (Medical Image Analysis, Image Segmentation, Text Classification, Class Imbalanced Learning, Sports Analytics)



Recurrent Neural Network, Deep Generative Models, Reinforcement Learning, Adversarial Network

To keep pace with the recent technological advances, plenary sessions are organised every week. Thought leaders share their experiences to prepare you for the future.



Plenary Lectures are organised either on friday evenings or on sunday mornings

# Knowledge Application

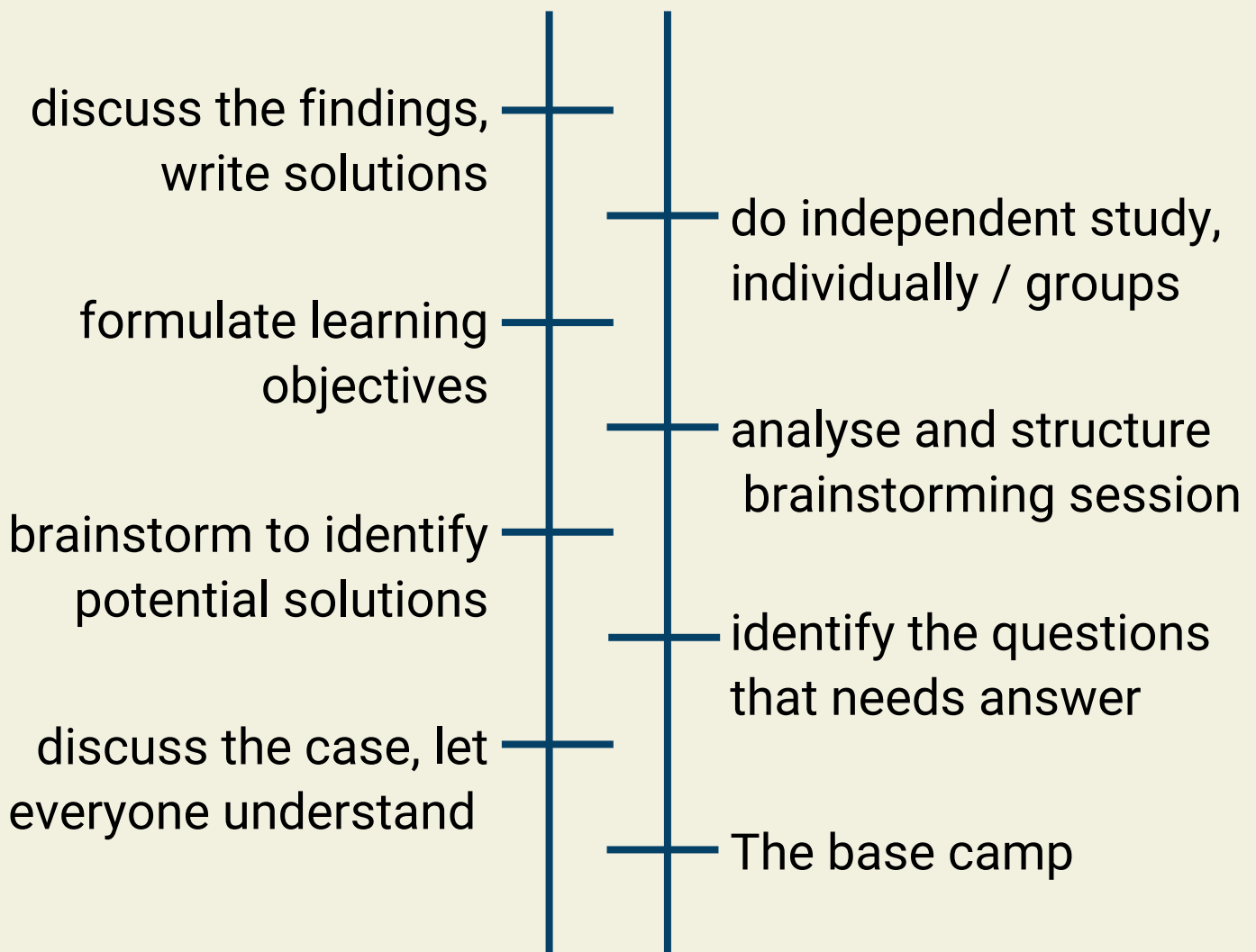
The AI GURU process does not focus on problem solving with a defined solution, but it allows for the development of other desirable skills and attributes. This includes knowledge acquisition, enhanced group collaboration and communication.

The process allows for you to develop skills used for your future practice. It enhances critical appraisal, literature retrieval and encourages ongoing learning within a team environment.

The AI GURU tutorial process often involves working in small groups. Each participant takes on a role within the group that may be formal or informal and the role often alternates. It is focused on the your reflection and reasoning to construct your own knowledge application.

# Problem Based Learning

## 7 JUMP Methodology, a missing ladder



Upload your solutions to your github account

# Why should the world care about you?

At the end of the AI GURU program you must pass an exam and achieve the [Chartered Technology Guru \(CTG\)](#) distinction.

The world is full of certificates. As a [CTG](#) charterholder you will stand out and have the knowledge and the skills to thrive and lead technology.

The CTG exam tests the fundamentals of Artificial Intelligence, mathematical intuition, programming skills, project management, and technology planning.

**Competence > Certificate**

# Why AI GURU Program?

Judge us. Dig more about TCG CREST. View our faculty profiles. Learn more about the views of Nobel Laureates who presented seminars at TCG CREST in our youtube channel. Lastly, call us. 9674426420.

# Knowledge Dissemination

One of the primary role of a Tech Guru in modern day organisation set up is the ability to disseminate knowledge.

AI GURU Program teaches you the art of Social Learning and inculcates a solid training in cognitive load. In simple words you learn the technique to adopt the behaviours with which another person has been previously successful in order to achieve your desired goal. It is a process that we naturally use subconsciously every day of our lives.

Motivation, work ethic, and learning techniques are examples of observed behaviours you may imitate to achieve your desired result.

In a group set-up, as a Tech Guru you should profess the same Social Learning techniques of knowledge acquisition to the group members to steer them to success and to create impact.

# TCG CREST Academy

AI GURU participants receive automatic membership to the TCG CREST Academy.

You will become part of a community. We will be there to advise and guide you whenever you need help.

## Key Advisors



**SABYASACHI BHATTACHARYA**  
DIRECTOR, TCG CREST



**BIMAL ROY**  
EX DIRECTOR ISI, PADMA SHRI



**RAJEEVA KARANDIKAR**  
CHAIRMAN, STATISTICAL COMMISSION OF INDIA



**PARTHA PRATIM CHAKRABORTY**  
EX DIRECTOR, IIT KHARAGPUR

# Many Career Choices



Our Career Services Team will prepare your success path



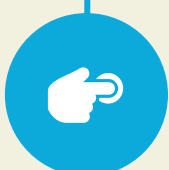
## **CREATE YOUR PORTFOLIO**

Define your career destination. Your Success Architect will help you to create your online CREST portfolio and your LinkedIn profile. We will also build your resume.



## **COMPILE YOUR COMPETENCE**

Showcase your problem solving skills in your git account. Publish your Chartered Technology Guru Test performance sheet. Gather letters of recommendations.



## **ACCOMPLISH YOUR OBJECTIVE**

Prepare your wishlist, apply through our hiring partners, leverage our Group Company connections. Join TCG CREST Research Program ( terms apply ).

# Can I talk with the current students at TCG CREST?

Feel FREE to talk with our current students to know more about the quality of our coursework.

visit <https://www.tcgcrest.org/iai-people/>

# Who teaches at AI GURU?

To become a Guru, one needs to learn from a Guru. The AI GURU program is taught by knowledge leaders from the academic world and the industry.

# Knowledge Halls

Knowledge experts sharing their thoughts



**VACLAV SNASEL**

TECHNICAL UNIVERSITY OF OSTRAVA



**ZIDONG WANG**

BRUNEL UNIVERSITY, UK



**TIMNIT GEBRU**

DISTRIBUTED AI RESEARCH INSTITUTE



**LEMON AKOGLU**

CARNEGIE MELLON UNIVERSITY



**SALVADOR GARCIA**

UNIVERSITY OF GARCIA



**JASON XU**

ALAN TURING INSTITUTE



**LIPO WANG**

NANYANG TECHNOLOGICAL  
UNIVERSITY

# Faculty



SWAGATAM DAS,  
ASSOCIATE PROFESSOR ISI



SUBHRAJIT ROY,  
GOOGLE BRAIN, LONDON



SUBHAMOY MAITRA,  
PROFESSOR, ISI



DIGANTA MUKHERJEE  
PROFESSOR ISI



SUBHASHIS GHOSAL  
DISTINGUISHED PROF  
NCSU



PRATIK JAIN  
GOOGLE INDIA



ANINDYA ROY  
PROFESSOR, UMBC



PARTHA CHAKRABORTY  
CEO SWITCHBOARD INC



NILOY GANGULY  
PROFESSOR, IIT KGP



CHIRANJIB BHATTACHARYA  
PROFESSOR, IISC



B K PANIGRAHI  
PROFESSOR, IIT DELHI



SAUGATA GANGOPADHYAY  
PROFESSOR IIT ROORKEE



KINGSHUK ROY  
PRINCIPAL DATA SCIENTIST  
AMAZON



KIRANMOY DAS,  
ASSOC PROFESSOR, ISI

# Am I fit for AI GURU Program?

## faq

I did not study Computer Science...

I don't know Statistics...

I did not study Mathematics during graduation

I don't know programming...

I don't know python programming...

I studied Mechanical Engineering...

I studied Electrical Engineering...

I did BSc in Computer Science ...

I don't know English...

# Participants must

know high school mathematics with a deep understanding of graphs and functions

know differential calculus as taught in high school

know how to read and write English

know high school co-ordinate geometry

know permutation and combination

have exposure to at least one programming language

be humble, diligent and ambitious

be curious, innovative and creative

have obsession about technology, sports & cinema

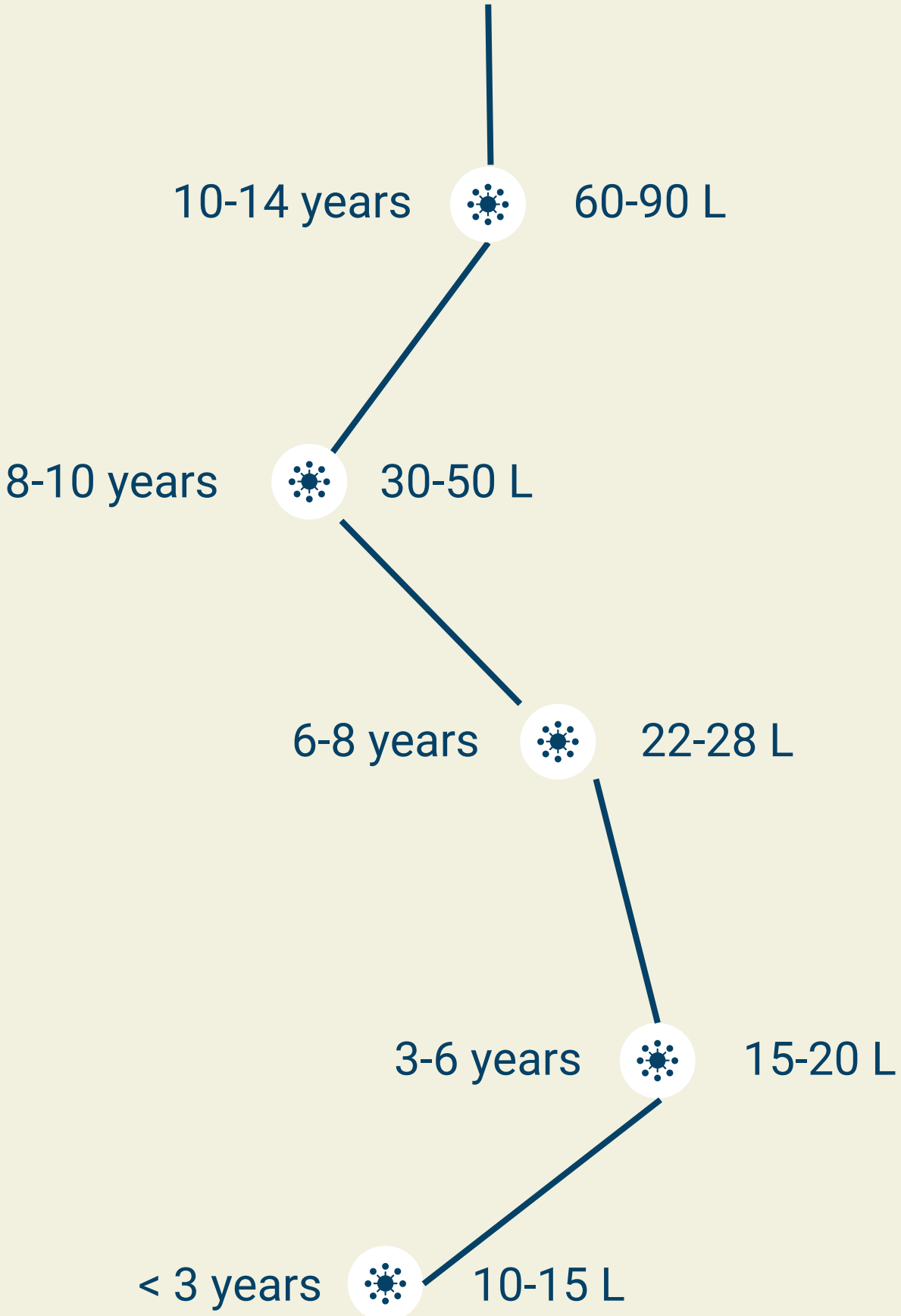
be in the final year or have completed BTech, BE, BEng, MTech, ME, MEng, or MSc in Physics, Mathematics, Statistics or Economics

# How much does an AI Specialist earn?

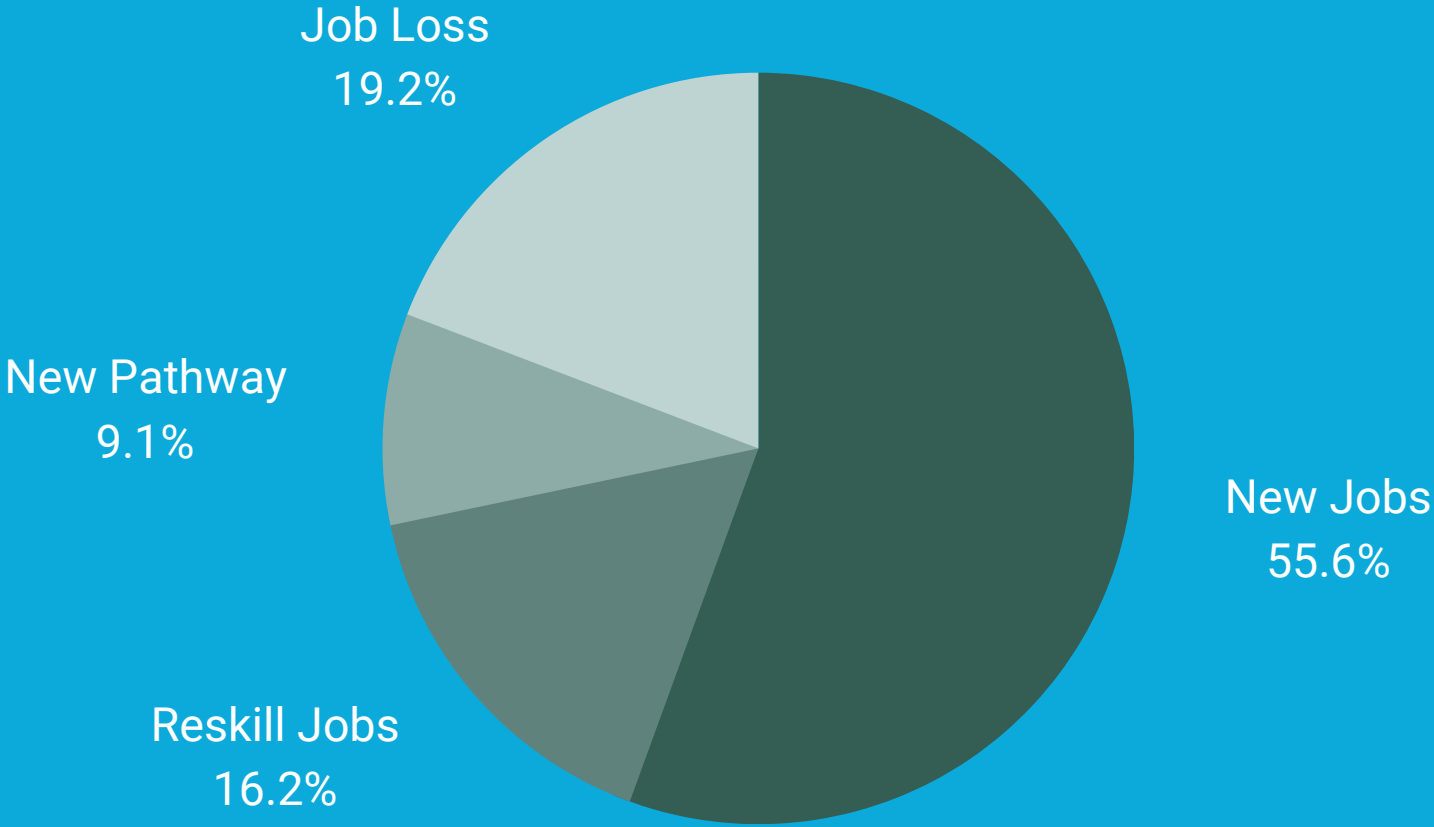
Let's find out what surveys have to say

# Salary Survey

more than 45000 open jobs in AI in 2023



# Impact of AI in Job Market



# Admissions Process

Founding Cohort:

**3rd Jul 2023 - 31st Dec 2023**

Program Fee:

**INR 1 Lakh + GST**

Last Date of Application:

**Jun 19th, 2023**



## WRITTEN TEST

An online written test consisting of 30 MCQs in high school maths will be organised.



## INTERVIEW

Top 200 applicants will be short listed for interview based on their performance in written test.



## CONFIRM SEAT

Get your questions answered and confirm your seat by paying the membership Fee.

# Can I get Scholarship?

TCG CREST is a not-for-profit organisation and an equal opportunity education provider.

Scholarships are available in the form of fee-waiver to all applicants.

The amount of Scholarship you may get in the form of fee waiver depends on your performance in the written test and the interview.

If you answer

25 or > 25 questions correctly you are eligible for 100% fee waiver

>19 and <25 questions correctly you are eligible for 75% fee waiver

>14 and <20 questions correctly you are eligible for 50% fee waiver

The total marks will be calculated based on your performance in the written test and the interview. Both the process will have equal weightage. The top 100 applicants may be given scholarship.

# Admission Syllabus

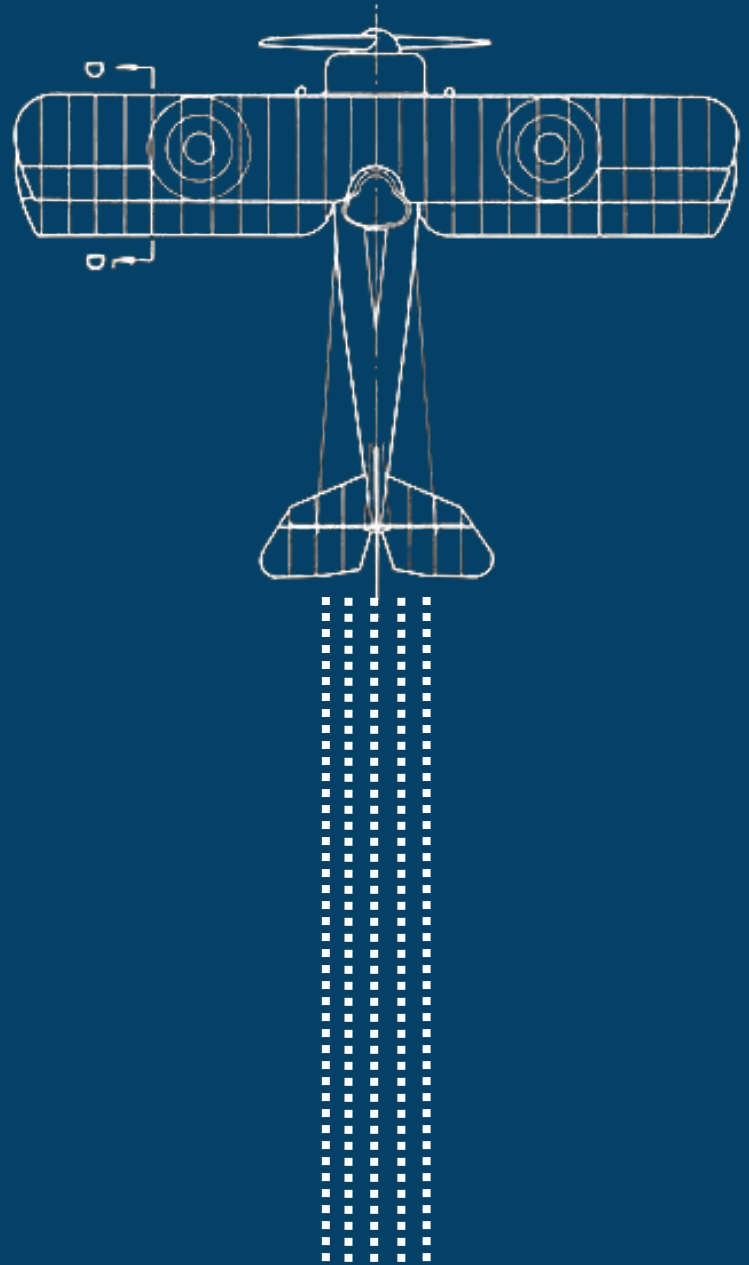
.The syllabus for the Scholarship Test entails topics from high school mathematics. You will not be expected to solve difficult problems, but your problem solving abilities and concepts will be tested.

Sets, operations on sets. Prime numbers, factorization of integers and divisibility. Rational and irrational numbers. Permutations and combinations, basic probability. Binomial Theorem. Logarithms. Polynomials: Remainder Theorem, Theory of quadratic equations and expressions, relations between roots and coefficients. Arithmetic and geometric progressions. Inequalities involving arithmetic, geometric and harmonic means. Complex numbers. Matrices and determinants.

Geometry of 2 dimensions with Cartesian and polar coordinates. Equation of a line, angle between two lines, distance from a point to a line. Concept of a Locus. Area of a triangle. Equations of circle, parabola, ellipse and hyperbola and equations of their tangents and normals. Mensuration. Basic trigonometry.

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for details visit <https://tcgcrest.org/courses/>

dial: 9674426420

email: [admissions@tcgcrest.org](mailto:admissions@tcgcrest.org)

Unir3, Block EM, Salt Lake, Sector V, Kolkata 91