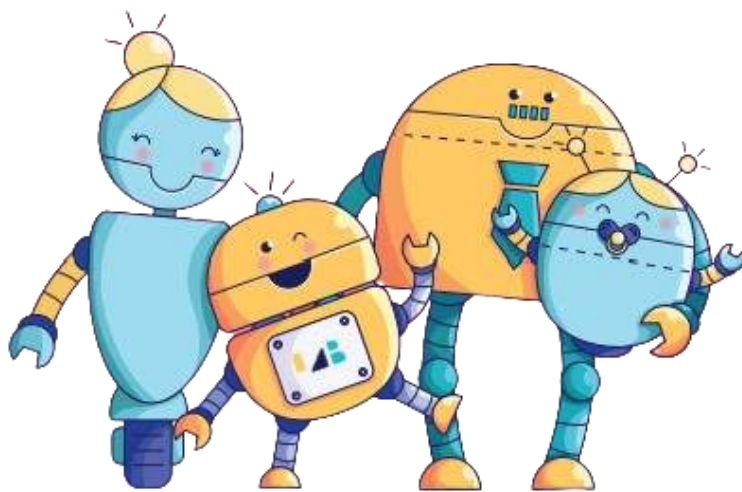




THE LAB JUNIOR

Artificial Intelligence is transforming every industry, and today's children won't just use AI—they'll need to understand how AI works.

At The Lab, students learn Coding, Robotics and AI together, giving them the computational thinking skills needed for the future.



MEET THE SENIOR TEAM



DR. OKA KURNIAWAN

Dr. Oka is a Senior Lecturer for Singapore University of Technology and Design. His research areas include Computer Science Education.

CURRICULUM SPECIALIST



DR. SCARLETT MATTOLI

Dr. Scarlett is a Psychotherapist/Counsellor, Coaching Psychologist & Supervisor and Psychometrist, specialising in psychological and therapeutic support.

**CHILD PSYCHOLOGIST
SPECIALIST**

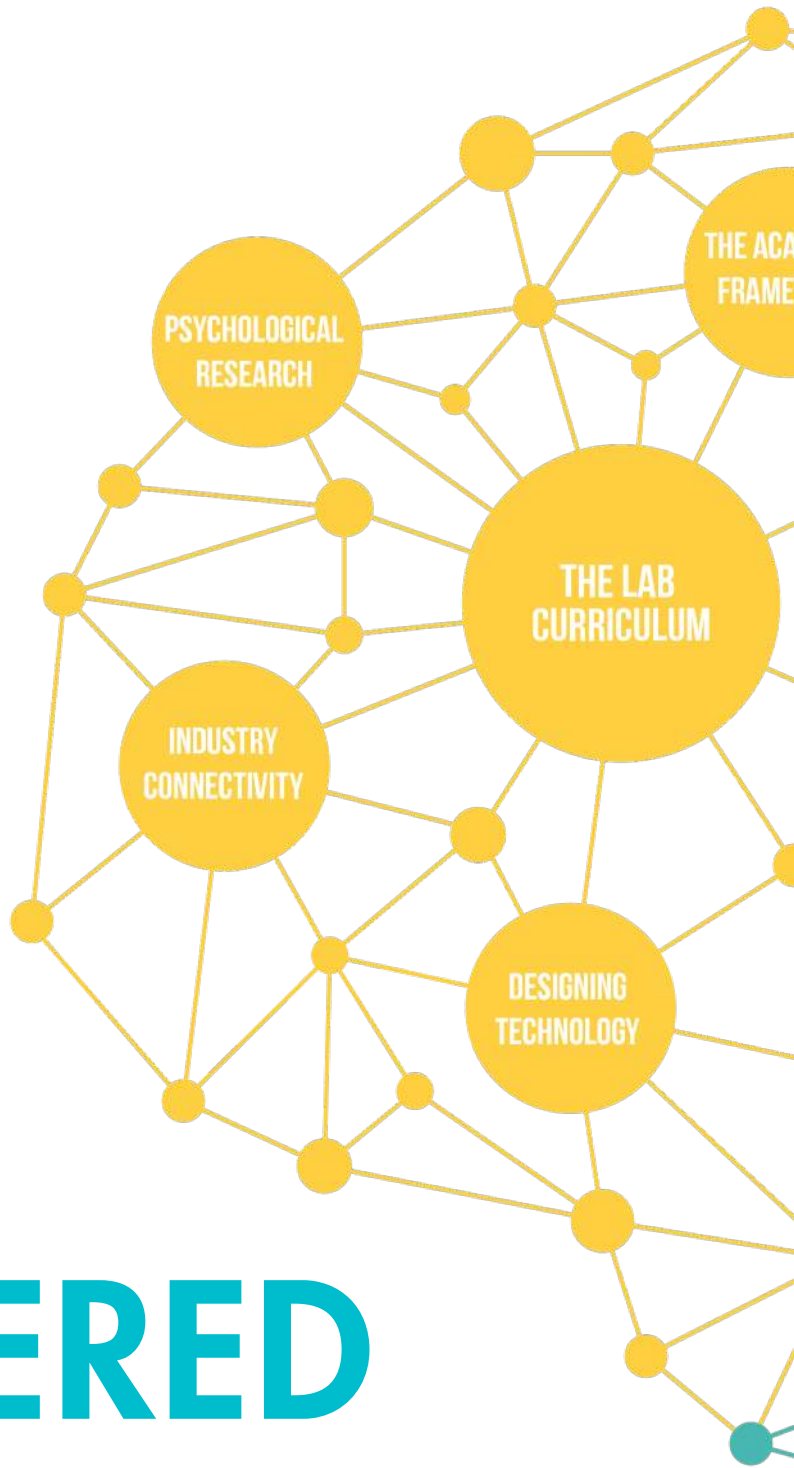


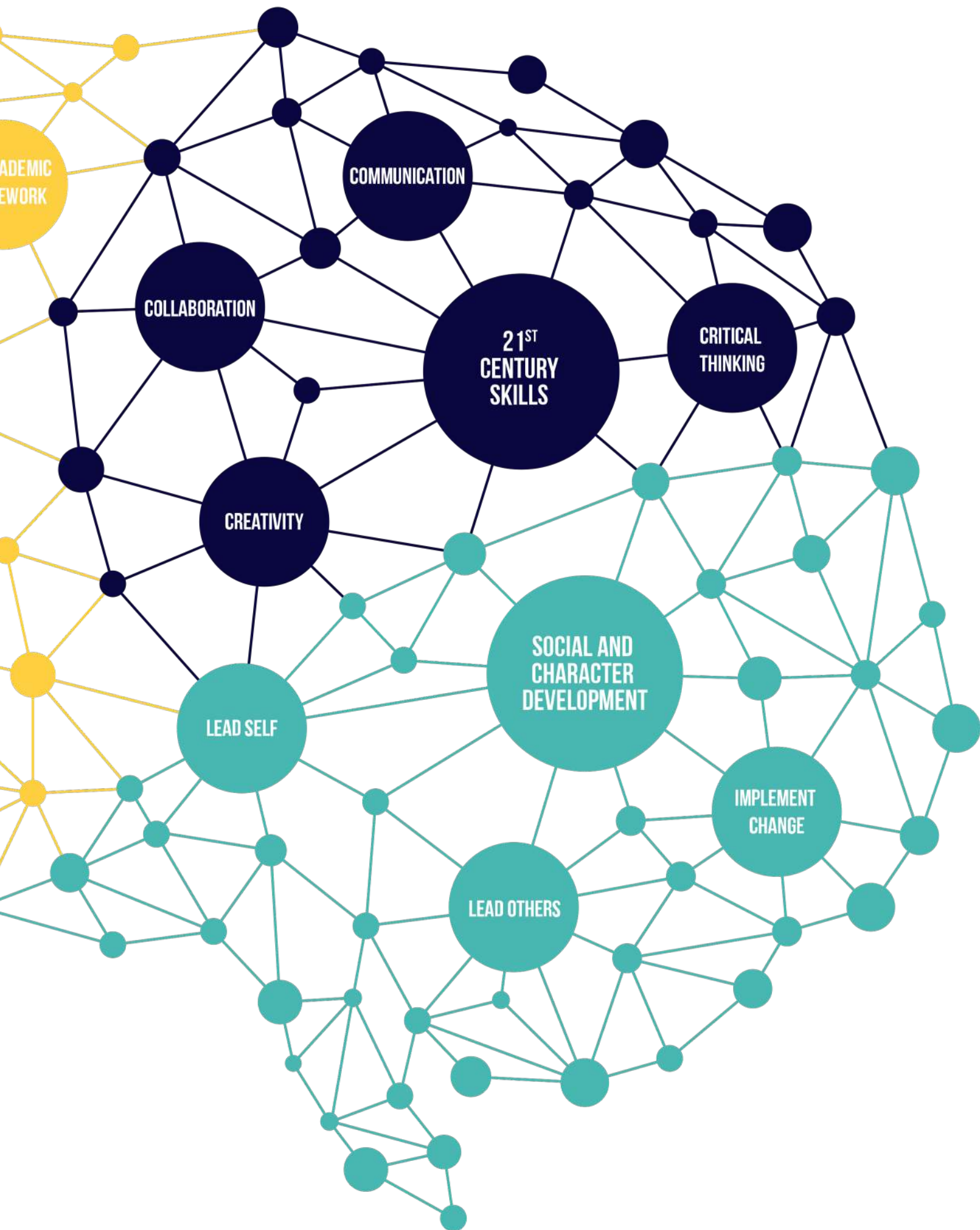
DR. COLLIN ANG

Dr. Collin is the Managing Director of Decision Science and is a thought leader in the industry for digital transformation and analytics

**TECHNOLOGY AI & DIGITAL
TRANSFORMATION
SPECIALIST**

AI-POWERED CODING JOURNEY





EMPOWERING STUDENTS THROUGH COMPUTATIONAL THINKING, AI & ROBOTICS



FOUNDATION

FOR AGES 7 9 YEARS OLD

&

A preparatory program to ease students into the Lab Junior program's rigorous requirements.

A broad introductory to allow students to seek the skills of a good programmer proficient in Computational Thinking and AI Literacy.

Program Outline

- Classroom-based structure
- A Half Year Foundation Program
- 2 terms of 10 weekly lessons
- Fuses Coding with multiple disciplines
- Ratio 1:6
- Duration 100 mins

JOIN US FOR A FUN-FILLED LEARNING EXPERIENCE!

FOUNDATION TERM 1

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Grabber	Decimals Negative Numbers	Motors
Build and Program a Transformer	Decimals Negative Numbers	Motors
Build and Program a Van	Physics relating to a car	Motors Logic
Build and Program a Sliding Door	Angles Degrees	Motors Logic
Build and Program a Scorpion	Multiplication	Motors Logic
Build and Program a Racing Car	Division	Motors Logic
Build and Program a Spinning Machine	Multiplication Division	Motors Logic
Build and Program a Music Maker	Estimation Range	Motors Logic
Final Project		



FOUNDATION TERM 2

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Printer	Binary Logic	Conditionals (If) Touch Sensor
Build and Program a Flipping Fish	Binary Logic	Conditionals (If-Else) Touch Sensor
Build and Program a Frog	Binary Logic	Conditionals (If-Else) Brick Button
Build and Program a Sit Up Man	Math Operators Logic	Conditionals (If) Ultrasonic Sensor
Build and Program a Basketball Machine	Math Operators Logic	Conditionals (If-Else) Ultrasonic Sensor
Build and Program a Goalkeeper Robot	Math Operators Logic Range (i.e. between)	Conditionals (If-Else) Ultrasonic Sensor
Build and Program a Spinning Top	Logic	Conditionals (If-Else-If-Else) Colour Sensor
Build and Program a Hopper	Logic	Conditionals (If-Else-If-Else) Colour Sensor
Final Project		





CORE FOR AGES 7 9 YEARS OLD &

Students progressively learn how intelligent machines perceive, make decisions and interact with the world through Coding, Robotics and Artificial Intelligence.

Builds upon the MOE Primary 4 Math and Science syllabus

Program Outline

- Classroom-based structure
- A Full Year Foundation Program
- 5 terms of 10 weekly lessons
- Fuses Coding with multiple disciplines
- Ratio 1:6
- Duration 100 mins

JOIN US FOR A FUN-FILLED LEARNING EXPERIENCE!

CORE TERM 1

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Jackpot Machine	Whole Numbers	Sequence Randomness
Build and Program a Rhino	Rounding Estimation Range	Sequence Randomness Range
Build and Program a Drop Tower Machine	Flowcharts	Flowchart in Programming
Build and Program a Grabber	Decimals Positive and Negative Numbers	Wait Until ()
Build and Program a Dog Car	Angles	Turns
Build and Program a Base Car	Geometry	Loops Wait Until ()
Build and Program a Colour Sensor Car	Logic	Conditionals (If-Else) Colour Sensor
Build and Program a Bulldozer	Algorithm	Algorithm programming
Final Project		



CORE TERM 2

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Ultrasonic Car	Relational Operators (i.e. less than)	Conditionals (If) Ultrasonic Sensor
Build and Program a Wally Robot	Relational Operators (i.e. more than)	Conditionals (If-Else-If) Ultrasonic Sensor
Build and Program a Guitar	Relational Operators (i.e. equals to)	Conditionals (If-Else-If) Ultrasonic Sensor Sound
Build and Program a Wheel of Fortune	Fractions	Conditionals (If) Randomness Touch Sensor
Build and Program a Samurai	Relational Operators (i.e. less than)	Conditionals (If) Ultrasonic Sensor Touch Sensor AND Operator
Build and Program a Camera	Logic	Conditionals (If-Else-If-Else) Colour Sensor Touch Sensor AND Operator
Build and Program a Bulldozer	Area Perimeter	Conditionals (If-Else-If-Else) Touch Sensor
Build and Program a Helicopter	Arithmetic Sequence	Wait Until () Touch Sensor
Final Project		



CORE TERM 3

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Balancer Robot	Angles	Conditionals (If-Else-If-Else) Gyro Sensor
Build and Program a Gyro Car	Range	Conditionals (If-Else-If-Else) Gyro Sensor
Build and Program a Beyblade Launcher	Range	AND Operators OR Operators Touch Sensor
Build and Program a Shooting Gun	Logic Statements	Nested Ifs Ultrasonic Sensor Touch Sensor
Build and Program a Bike with Traffic Light	Logic Statements	Nested Ifs AND Operators
Build and Program a Safe Deposit Box	Range	Reflected Light Intensity Colour Sensor
Build and Program a Game Master Robot	Light Intensity Reflection of Light	Proportional Integral Derivative
Build and Program a Bug Robot		String and Integer Ultrasonic Sensor
Final Project		



CORE TERM 4

Challenge	Math/Science Concept	Coding/Robotic Concept
Build and Program a Scissors, Paper, Stone Game Machine	Probability Percentages	Variables Random Touch Sensor
Build and Program a Pie Thrower	Algebra	Variables Passcode System
Build and Program a Catapult	Algebra Time Range	Variables Random
Build and Program a Hand Biting Crocodile game	Algebra Time Range	Variables Touch Sensor
Build and Program a Pulley System	Physics Ambient Light Intensity	Variables Light Sensor
Build and Program a Satellite Robot	Calibration Ambient Light Intensity	Variables Light Sensor
Build and Program a Game Console	Variables X Y axis	Variables
Build and Program a Bike	Speed	List/Array
Final Project		



Computer Science & AI

CORE TERM 5

Challenge	AI/Maths Concept	Coding/Robotic Concept
Build and Program a simple AI Game	Probability Percentages	Variables Nested Ifs
Train a simple AI robot	Data Collection Clustering Pose Classification	Nested Ifs If-Else-Ifs
Build and Program a Colour Sensor AI robot	Range	Variables Reflected light intensity
Build and Program a simple AI game	AI Confidence Pose Classification	Variables Random Time
Build and Program a remote controlled AI robot	Physics	Variables Nested Ifs Remote Control
Build and Program a body sensing AI robot	Classification Coordinates	Nested Ifs If-Else-Ifs
Train a simple AI robot	Data Collection Clustering Pose Classification	Variables
Build and Program a remote controlled AI robot	Accuracy	Variables If-Else-Ifs
Final Project		

Limited
Time only
\$800
(\$80/class)



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COMMIT TO A YEARLY MEMBERSHIP
&
GET PROMOTIONAL RATES!

10 Classes

\$700 (\$70/class)

40 Classes

\$2,600 (\$70/class)

*** Registration fee is \$80 per student*

**** 40 Classes application only to Core Term 1-4)*

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