



PERANTIS ISKANDAR

15 September – 31 December 2021

A programme supporting the Malaysian Government initiative to revive the economy via human capital development



Foreword

Perantis Iskandar is a programme supporting the Malaysian government initiative to revive the economy via human capital development

KOTO Association is an Artificial Intelligence-driven platform for Upskilling, Job Matching and Financial Inclusion. KOTO Association is honoured to be designated as the Authorized Training Partner (ATP) for this programme.

The outcome of the training programme is to enhance Iskandar Malaysia's regional economic development via human capital development, produce competent talent for employment and address the unemployment issues caused by the pandemic Covid-19.

To actualize this initiative, Perantis Iskandar has commissioned its Authorized Industry Partner (AIP), Imagine AI Sdn. Bhd., to employ the twenty-five (25) trainees immediately after the four-month training programme.

KOTO Association will deliver a 2-month intensive training in different categories as stated below, followed by 2 months of industrial training after which the trainees will begin full-time employment at Imagine AI Sdn. Bhd.

It is a pleasure to welcome all the trainees to this programme. Do take advantage of the good opportunity to kick-start your career with a better foundation.

Appreciation goes to Perantis Iskandar and the Malaysian Government for this initiative and the opportunity to be the Authorized Training Partner (ATP).

Thank you.
Edwin Loh

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COURSE OUTLINE

Business and Marketing

Date: 15 September – 14 November, 2021

Session 1: 09.00am – 12.00pm

Session 2: 2.00pm – 4.00pm

Course Description

The course is aimed at equipping participants with the understanding of business development and corporate operations, as well as the soft skills to enable them work successfully and effectively within a corporate setting. Targeted soft skills including networking, negotiations, partnerships, and cost-savings efforts to yield sales growth, business expansion, the formation of strategic partnerships, and increased profitability.

The marketing course targets an understanding of marketing strategy, including traditional and digital marketing, and various digital marketing approaches, and tools for achieving them. Participants will get an overall understanding of digital and online marketing, the various platforms for conducting them, web analytics, social media tools, marketing through search engines, mobile marketing, email marketing, digital display marketing, content marketing, influencer marketing, etc. and various concepts associated with digital marketing. They will be introduced to content marketing and the use of various marketing materials, understanding of the basics of multimedia development, and hands-on skills on how to set up and conduct a content marketing campaign.

Design Thinking and Critical Thinking aims at empowering participants with Higher-Order Thinking Skills (HOTS) that are central to effectiveness in today's workplace. Participants will learn the concept and elements of Design Thinking and its relationship with User-Centered Design, the significance of DT and its relevance within the corporate context as well as its link with Design Sprint and its practical application in the real world. They will learn the basics of critical thinking, obstacles to critical thinking and how to recognize them; how to analyze everyday human interaction for critical thinking needs and means to address the obstacles. They will have practice in ways to make decisions and judge actions based on critical thinking.

Project management targets equipping participants with basic understanding and application of key project management terms, skills for analyzing project settings, a general understanding of the interaction between various project management processes, and stakeholder management process inputs, tools, techniques, and outputs. They will also learn about project planning, scheduling, execution, monitoring/controlling, reporting, presentation and pitching. Participants will get introduced to the concept of Agile Project Management.

Business and Marketing Essentials

September 15 – October 14

DATE	MODULE
15 September 2021	WORKPLACE ENVIRONMENT
17 September 2021	Introduction to Business Development (BD)
20 September 2021	Business Planning 1
21 September 2021	Business Analysis
22 September 2021	Networking, Strategic partnerships & Negotiations
23 September 2021	Business Writing & Communication
24 September 2021	Introduction to Marketing
27 September 2021	Content Marketing and Strategy
28 September 2021	Social Media Marketing Strategy
29 September 2021	SEO, SEM & Analytics
30 September 2021	Design Essentials & Project
1 October 2021	Critical Thinking 1
4 October 2021	Design Thinking 1
5 October 2021	UCD in Action
6 October 2021	DT in Action
7 October 2021	Project 1
8 October 2021	Introduction to Project Management
11 October 2021	Project Planning 1
12 October 2021	Project Planning 2
13 October 2021	Team Meeting
14 October 2021	Presentation and Pitching

Business and Marketing Advance

October 15 – November 14

DATE	MODULE
15 October 2021	Marketing 2
18 October 2021	Marketing Research
20 October 2021	Practical Design
21 October 2021	Analytics 2
22 October 2021	Marketing Project 2
25 October 2021	Critical Thinking 2
26 October 2021	Design Thinking 2
27 October 2021	UCD in Action
28 October 2021	DT in Action
29 October 2021	Business Development & Planning 2
1 November 2021	Sales & Marketing
2 November 2021	Business Expansion
3 November 2021	Financials
5 November 2021	Business Development Summary
8 November 2021	Project Execution
9 November 2021	Project Monitoring & Controlling
10 November 2021	Project Reporting and Conclusion
11 November 2021	Agile Project Management
12 November 2021	Project Management Career Exploration

COURSE OUTLINE

Computer Vision Programming

October 1 – November 30

Session 1: 09.00am - 12.00pm

Session 2: 2.00pm - 4.00pm

Course Description

This course is intended for computer vision developer either beginner or advanced developers. The programme introduces the fundamental knowledge required for Computer vision development and quickly move the participants along to practical development of computer vision application in python programming.

The course spends sometime teaching basic to advance level of python programming in few modules and the extensive use of NumPy package the building package of computer vision and deep learning. Finally take the participants on a journey of image and video manipulation in basis python and advanced frameworks such as OpenCV.

Computer Vision Programming Essentials

October 1 – October 30

DATE	MODULE
1 October 2021	WORKPLACE ENVIRONMENT
4 October 2021	Introduction to Python Programming
5 October 2021	Python Data Structures and Control Flow
6 October 2021	vPython IO Operation, Function and Module
7 October 2021	Object Oriented Programming
8 October 2021	Introduction to Numpy & SOFTSKILLS 1
11 October 2021	Advance Indexing and Numpy IO Operation
12 October 2021	Matrix Operation and Manipulation
13 October 2021	Linear Algebra 1
14 October 2021	Linear Algebra 2 & SOFTSKILLS 2
15 October 2021	Basic Image Manipulation in Python programming
18 October 2021	Introduction to OpenCV
19 October 2021	OpenCV IO and Drawing
20 October 2021	Image Processing Techniques I
21 October 2021	Image Processing Techniques II
22 October 2021	Augmented Reality with OpenCV I
25 October 2021	Machine Learning with OpenCV I
26 October 2021	Face Detection I
27 October 2021	Introduction to Deep Learning I
28 October 2021	PROJECT EVALUATION

Computer Vision Programming Advance

November 1 –November 30

DATE	MODULE
1 November 2021	Advance Python Programming
2 November 2021	Advance OpenCV
3 November 2021	Image Processing Techniques III
4 November 2021	Augmented Reality with OpenCV II
5 November 2021	Machine Learning with OpenCV II
8 November 2021	Face Detection II
9 November 2021	Deep Learning II
10 November 2021	TensorFlow and OpenCV II
11 November 2021	TensorFlow and OpenCV II & SOFTSKILLS 3
12 November 2021	Keras and OpenCV
15 November 2021	Keras and OpenCV
16 November 2021	Introduction to PyTorch
17 November 2021	PyTorch and Image Classification
18 November 2021	PyTorch Object Detection
19 November 2021	PyTorch Object Detection
22 November 2021	GANs and Adversarial & SOFTSKILLS 4
23 November 2021	GANs and Adversarial
24 November 2021	Computer Vision Deployment
25 November 2021	Computer Vision Deployment
26 November 2021	PROJECT EVALUATION

COURSE OUTLINE

Industrial Automation

October 1 – November 30

Session 1: 9.00am - 12.00pm

Session 2: 2.00pm - 4.00pm

Course Description

Industrial automation systems are systems used to control and monitor a process, machine or device in a computerized manner that usually fulfils repetitive functions or tasks. This course is aimed at people with little or no background in electronics, embedded systems, and programming. At the end of this training the participants will be able to achieve the following:

1. Read and write python programming
2. Understand the fundamentals of electronic component, symbols and functions
3. Able to read circuit diagrams
4. Able to program raspberry Pi PICO
5. Design and develop an automated system using Raspberry Pi PICO

Industrial Automation Essentials

October 1 – October 31

DATE	MODULE
1 October 2021	WORKPLACE ENVIRONMENT
4 October 2021	Introduction to Python Programming
5 October 2021	Python Data Structures and Control Flow
6 October 2021	Python IO Operation, Function and Module
7 October 2021	Object Oriented Programming
8 October 2021	Introduction to Numpy & SOFTSKILLS 1
11 October 2021	Advance Indexing and Numpy IO Operation
12 October 2021	Matrix Operation and Manipulation
13 October 2021	Linear Algebra 1
14 October 2021	Linear Algebra 2 & SOFTSKILLS 2
15 October 2021	Introduction to Embedded systems, electronic components and schematic diagrams
18 October 2021	Setup Raspberry Pi PICO and software installation
19 October 2021	Nodes - Sensors
20 October 2021	Nodes - Actuators
21 October 2021	Nodes - communication modules and Protocols
22 October 2021	Introduction to project design
25 October 2021	Project - Industrial controller
26 October 2021	Project - Industrial controller
27 October 2021	Project - Industrial controller
28 October 2021	PROJECT EVALUATION

Industrial Automation Advance

November 1 - November 30

DATE	MODULE
1 November 2021	Overview of Industry 4.0
2 November 2021	Introduction to industrial internet of things (IIoT)
3 November 2021	Introduction to IIoT architecture and IIoT devices
4 November 2021	IIoT communication protocols
5 November 2021	Introduction to Dash Python
8 November 2021	Designing of IoT Dashboard using Dash
9 November 2021	Development of IoT Dashboard using Dash & SOFTSKILLS 3
10 November 2021	Hosting of Dashboard on Huroku
11 November 2021	Hosting of Dashboard on Huroku
12 November 2021	Database Design
15 November 2021	Design and Development of Database
16 November 2021	Integration of industrial Controller, database and dashboard (Project) & SOFTSKILLS 4
17 November 2021	Integration of industrial Controller, database and dashboard (Project)
18 November 2021	Integration of industrial Controller, database and dashboard (Project)
19 November 2021	Integration of industrial Controller, database and dashboard (Project)
22 November 2021	Introduction to PLC modules and serve Motors
23 November 2021	Installation of PLC software
24 November 2021	Schematic and pneumatic diagrams
25 November 2021	PLC programming
26 November 2021	Simple PLC project

COURSE OUTLINE

Web & App Development

November 1 – December 31

Session 1: 9.00am – 12.00pm

Session 2: 2.00pm – 4.00pm

Course Description

The course focuses on equipping participants with basic knowledge and skills in full-stack development to enable them work in a standard corporate setting. They will learn how to set up a real web development project, including the basic requirements of a browser, and integrated development environments. They will learn about working with HTML, CSS, JavaScript, Bootstrap, and Node.js with Express. They will learn how to build backend servers and work with NoSQL Data and databases, and essential mobile app development. They will get basic understanding about data, data storage, data management and data use, including working with databases.

The courses will therefore aim at both front- and back-end development with the goal of deployment on standard platforms. Participants should understand related concepts including domain names, and hosting, and be able to host their websites on standard hosting platforms.

Web & App Development Essentials

November 1 – November 30

DATE	MODULE
Mon, 1 Nov 2021	OPENING & WORKPLACE ENVIRONMENT
Tue, 2 Nov 2021	First Steps in Coding Introduction to HTML and CSS Project 1: The Eye Chart Introduction to <div>; Project: Online Poster Poster Design and Customization Introduction to id; Project: Patterns with Nested Div Elements
Wed, 3 Nov 2021	Web Devt Project & Intro to JS Project: My First Website Digital Citizenship Website Customize My First Website Project Introduction to JavaScript 1 & 2
Fri, 5 Nov 2021	Intro to JS 2 Introduction to JavaScript - 3 Project: JavaScript Conversation HTML and JavaScript working together: Trivia Game Project: Trivia Game Extension Activities: Trivia Game and Student Presentation
Mon, 8 Nov 2021	Technology and the Community Unit Build an interactive story using a combination of logic, JavaScript functions, and creativity to make an organized story tree. Consider design and theme choices to attract targeted audiences
Tue, 9 Nov 2021	Technology and the Community Unit Use data filters to design a web app that can help people find the deferent types of volunteer organizations. Learn which data filters provide the most beneficial information to users Soft Skills 1 (Afternoon)
Wed, 10 Nov 2021	Technology and the Community Unit Design and build a multi-page website for a fictional community organization. Collect user data and feedback on design choices and how to incorporate the needs of the community organization
Thu, 11 Nov 2021	Technology and the Community Unit Design a web app that can track your to-do list and learn how to program with more advanced JavaScript syntax. Explore ways that apps can be designed to fit the needs of multiple different types of users
Fri, 12 Nov 2021	eCommerce Website Devt 1 Introduction to the programming learning journey E-commerce and sustainability CSS Image Card CSS Website Layout CSS Gallery Layout

Mon, 15 Nov 2021	Introduction to Bootstrap 1 Using media queries Introduction to Bootstrap
Tue, 16 Nov 2021	Introduction to Bootstrap 2 Setting up columns Project 1- Restaurant home page Soft Skills 2 (Afternoon)
Wed, 17 Nov 2021	Intermediate JavaScript JavaScript 4 var, let, const, console.log, operators conditional statements arrays, loop and loop controls functions, elements, innerHTML events, etc
Thu, 18 Nov 2021	Introduction to Database CRUD operations \$BSD.db.get() \$BSD.db.set() \$BSD.db.listKeys() Project: News website using DB
Fri, 19 Nov 2021	eCommerce Website Devt 2 e-commerce website Frontend Devt Project: Static front-end page Getting sample data from the database to the front-end
Mon, 22 Nov 2021	eCommerce development 3 Implementing the cart functions Implementing the checkout function Capstone Project
Tue, 23 Nov 2021	eCommerce development 4 Create a static back-end page Show existing products Edit products
Wed, 24 Nov 2021	eCommerce development 5 Back-end page (cont.) New products Delete products Query user's orders
Thu, 25 Nov 2021	eCommerce Website Devt 6 Customization of eCommerce Website project Presentation of projects
Fri, 26 Nov 2021	Project Presentation continue Capstone Project Completion of Final Projects
Mon, 29 Nov 2021	Presentation Presentation of project
Tue, 30 Nov 2021	Presentation Presentation of project

Web & App Development Advance

December 1 - December 31

DATE	MODULE
Wednesday, 1 December 2021	Introduction to Node.js
Thursday, 2 December 2021	Introduction to NPM & Express
Friday, 3 December 2021	Express in Visual Studio Code
Monday, 6 December 2021	Understanding Route
Tuesday, 7 December 2021	Templating Engines
Wednesday, 8 December 2021	Introduction to MongoDB
Thursday, 9 December 2021	Introduction to MySQL Soft Skills 3 (Afternoon)
Friday, 10 December 2021	Persisting data to MongoDB Database with Nodejs
Monday, 13 December 2021	Persisting data to MySQL Database with Nodejs
Tuesday, 14 December 2021	PROJECT EVALUATION I
Wednesday, 15 December 2021	Upload a File with Express
Thursday, 16 December 2021	Authentication I Soft Skills 4 (Afternoon)
Friday, 17 December 2021	Authentication II
Monday, 20 December 2021	Validation and Errors
Tuesday, 21 December 2021	CSS and JavaScript in web application
Wednesday, 22 December 2021	Node.js and RESTful API
Thursday, 23 December 2021	Consuming RESTful API
Friday, 24 December 2021	Deployment
Monday, 27 December 2021	PROJECT EVALUATION II
Tuesday, 28 December 2021	PROJECT EVALUATION II



Goke Oladokun

Dr. Goke Oladokun is a university lecturer, a researcher at University Teknologi Malaysia and seasoned programmer of 18 years. He started out in programming with Pascal and has since moved on to become proficient in over fifteen (15) programming languages.



Bosede Edwards

Dr. Bosede Edwards is an Adjunct Lecturer with Raffles University Malaysia, an instructor with BSD Education and a consultant with Arrows Education. She has over 15 years' experience in instruction across all levels of education and holds a PhD from Universiti Teknologi Malaysia. She is a certified HRDF Trainer.



Mo Qureshi

Mo transforms education and learning using creativity, design, data and technology. A systems thinker who loves solving hard problems, building communities & organizations that inspire change, Mo is a director at BSD Educations.



Mahdiah Nadi Senejani

Mahdiah Nadi Senejani has been an Assistant Professor at the faculty of Computing, Islamic Azad University, Iran since 2005. She holds a B.Sc. in Computer Science, M.Sc. and M.Phil. in Computer Engineering (Micro-Electronics & Architecture) from Universiti Teknologi Malaysia. Her research focuses on network-on-chip and power modeling.



Elijah Olakunle

Dr. Olakunle is a researcher at the Wireless Communication Center (WCC), Universiti Teknologi Malaysia. His research interests are Internet-of-Things (IoT), Embedded Systems, Artificial Intelligence, and Wireless Communications. He is a trainer, instructor, and programmer. He is proficient in C, MATLAB, and Python. Dr. Elijah is also the founder of Free Python Course (FPC).



Kadarko Esther Dizaho

Dr Kadarko Esther Dizaho is a Certified Trainer by the HRDCorps. She holds multiple degrees in Human Resource Development. She has provided training and consultation services to Economic Literacy and Human Development Initiatives in Nigeria and Chad, and is an online training facilitator with Digital Labs in collaboration with Nasarawa State University Keffi.



Karan Vaswani

Having worked with educational institutions around the world, Karan excels in providing professional development training to educators. As the Professional Development Lead for BSD Education, and having personally taught over 1000 classes, Karan now operates and trains an international network of BSD certified training professionals to deliver digital skills and coding courses.



Cheah C Pink

Cheah C. Pink is an Education & Training Professional who has 18 years of experience in the education field and has been involved in managing educational institutions, leading front managers/principals, training staff, designing curriculum, lecturing and running projects.



Mohammad Nadi Senejani

Mohammad is a software developer with extensive experience in web development, full stack programming and all stages of the software development life cycle. He is proficient in ASP.NET C#, SQL, JavaScript, HTML, CSS, SCRUM and Agile methodologies, and a host of other software development languages and solutions.



Oladokun Temitope

Temitope Oladokun is one of the leading women in AI and robotics in the world. As an AI Engineer, she has developed intelligent systems that mitigate business risks. She has trained over 100 Nigerian students in Robotics through her free annual workshops and her TechieGeeks foundation. Presently, she is an AI developer at Anheuser-Busch InBev.



Mehdi Zadeh

Dr. Mehdi is a data scientist with more than 6 years of experience in applied machine learning, big data framework, image processing, text mining and cloud computing in industrial and business levels. He is a Data Scientist, P/S/L Consulting Group, Montréal, Québec, Canada (Full time) and a part time instructor, McGill university, Continuing Studies. Montréal (Part time).