S4YE Spark Session # 5:
Moving up the skills ladder: Making advanced digital skills more accessible

2023
INNOVATION
EXCHANGE &
PARTNER SUMMIT

From Algorithms to Opportunities:
Harnessing Innovation for Youth Employment

November 7-8, 2023

JOBS WORLD BANK GROUP
Social Protection & Jobs

S4YE SOLUTIONS FOR YOUTH EMPLOYMENT

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S4YE Spark Session # 5:Moving up the skills ladder: Making advanced digital skills more accessible

Lessons from a global digital readiness program on AI

Anshul Sonak

Principal Engineer & Global Director - Digital Readiness Programs and Strategy
Intel

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Intel® AI For Youth

Differentiating Youth,

Developing Countries Example,

Private Sector Role in the

Future of Youth Employment

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Objective: Empower Youth on AI Tech & Social Skills, in an Inclusive Way

Teena Sahu developed "Happiness Guru" in high school to predict mental depression

Deep understanding of AI

Demystify AI and equip youth with the skillset and mindset required for AI readiness.

Access and use of AI toolsets

Democratize access to AI tools with Intel technologies and train youth to use them skillfully.

Create solutions with AI

Meaningful social impact solutions as evidence of achievement.

Learning Module Summary: Instructor Led, Hi-Tech + Hi-Touch

Demystify (12 hours)

		Exploring AI (12h)
Exploring AI (12h)	1	**What is AI** (2h) — How does AI work?
	2	**AI Domains & Other Technologies** (4h)
	3	**AI & the society** (2h) — AI for SDGs
	4	**Introduction to AI Project Cycle & AI Ethics I** (2h)
	5	**What can we do with AI?** (2h) — Project Presentation

Inspire (30 hours)

Playing with Data (30h)	6	**Introduction to AI Project Cycle & AI Ethics II** (2h)
	7	**Maths for AI – I** (2h) — Statistics & Probability
	8	**Basics of Data Literacy** (2h)
	9	**Acquiring Data** (2h)
	10	**Data Ethics & Mitigating Bias** (2h)
	11	**Processing & Interpreting Data** (4h)
	12	**Experiment with AI** (8h) — Intel OpenBot
	13	**Project** (8h) — Interactive Data Dashboard & Presentation

Acquire (50 hours)

AI Models (12h)	14	**Intro to Modeling in AI** (4h)
	15	**Evaluating AI Models** (6h)
	16	**Ethical Frameworks for AI** (2h)
NC – SD (10h)	17	**No-Code AI tools for Statistical Data** (2h)
	18	**Statistical Data** (8h): Use Case Walkthrough
NC – CV (10h)	19	**No-Code AI tools for Computer Vision** (2h)
	20	**Computer Vision** (8h) — Use Case Walkthrough
NC – NLP (10h)	21	**No-Code AI tools for Natural Language Processing** (2h)
	22	**Natural Language Processing** (8h) — Use Case Walkthrough
Project Building (8h)	23	**Project** (8h) — Creation of No-Code Project & Presentation

Experience (52 hours)

AI Programming (20h)	24	**Python for AI – I** (4h) — Foundations & Intro to Jupyter Notebook
	25	**Intro to Intel DevCloud** (2h)
	26	**Math for AI – II** (4h) — Matrices & Vectors
	27	**Python for AI – II** (4h) — Basic Data Operations
	28	**Intro to Intel Python and Python Libraries** (6h) — Common Libraries for AI & ML
Operational AI (12h)	29	**Common ML & DL Techniques** (8h) — Neural Networks, Learning Algorithms, Data Modeling
	30	**AI Project Scoping** (2h) — Choose a Domain – Statistical Data, Natural Language Processing & Computer Vision
	31	**Introduction to AI Training & AI Inferencing** (4h)
AI Inferencing – OpenVINO (20h)	32	**Hands-on with OpenVINO** (2h) — Preparing for applying OpenVINO toolkit
	33	**Model Optimization** (4h) — Creating Intermediate Representation Files
	34	**Walkthrough of Use Case** (4h)
	35	**Project** (8h) — Creation of OpenVINO Project & Presentation

Empower (70 hours)

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Statistical Data & IOT (16h)	36	**Statistical Data Processing & Visualization** (4h) — Numeric Variables, Data import, Box Plot
	37	**IOT Fundamentals & Development tools** (4h) — IOT Devices & Applications
	38	**AI for Statistical Data** (2h) — Supervised Learning & Classification Algorithms
	39	**Statistical Data** (6h) — Use-Case Walkthrough
Computer Vision (14h)	40	**Computer Vision Fundamentals** (2h) — Pixels, Kernels, Image Processing and Manipulation
	41	**Data Exploration & Modeling in CV** (6h) — Masking, Thresholding & Hands-on with OpenCV
	42	**Computer Vision** (6h) — Use-Case Walkthrough
Natural Language Processing (14h)	43	**NLP Data Processing** (2h) — Bag of Words, TF-IDF
	44	**NLP Algorithms & Applications** (6h) — Language Recognition Model, Sentiment Analysis
	45	**Natural Language Processing** (6h) — Use-Case Walkthrough
Project Creation & Deployment (26h)	46	**Project Design, Build & Presentation** (8h)
	47	**Introduction to AI Deployment Tool** (2h) — Streamlit
	48	**AI Prototype** (6h) — Web-Deployment through Tools
	49	**AI Project Audit** (2h) — Post-deployment Risk Mitigation, Bias Checklists
	50	**Project** (8h) — Local Deployment of AI Project & Presentation

Intel provides Content and Training to Partner Trainers. And helps map to local curriculum

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Albania Example of Collaboration Model With World Bank

Albanian-American Development Foundation

Michael Granoff (Chairman AADF), Ms. Evis Kushi (Minister of Education and Sports), Mr. Erion Veliaj (Mayor of Tirana).

- ✓ World Bank funding to Albania for digitalization of education– $ 65M
- ✓ 200 High-end computer / AI Labs
- ✓ Intel AI for Youth – an integral part of the government program
- ✓ Intel provides content & training to AADF
- ✓ Impact Showcase – JA Platforms
- ✓ Technology Infrastructure advise
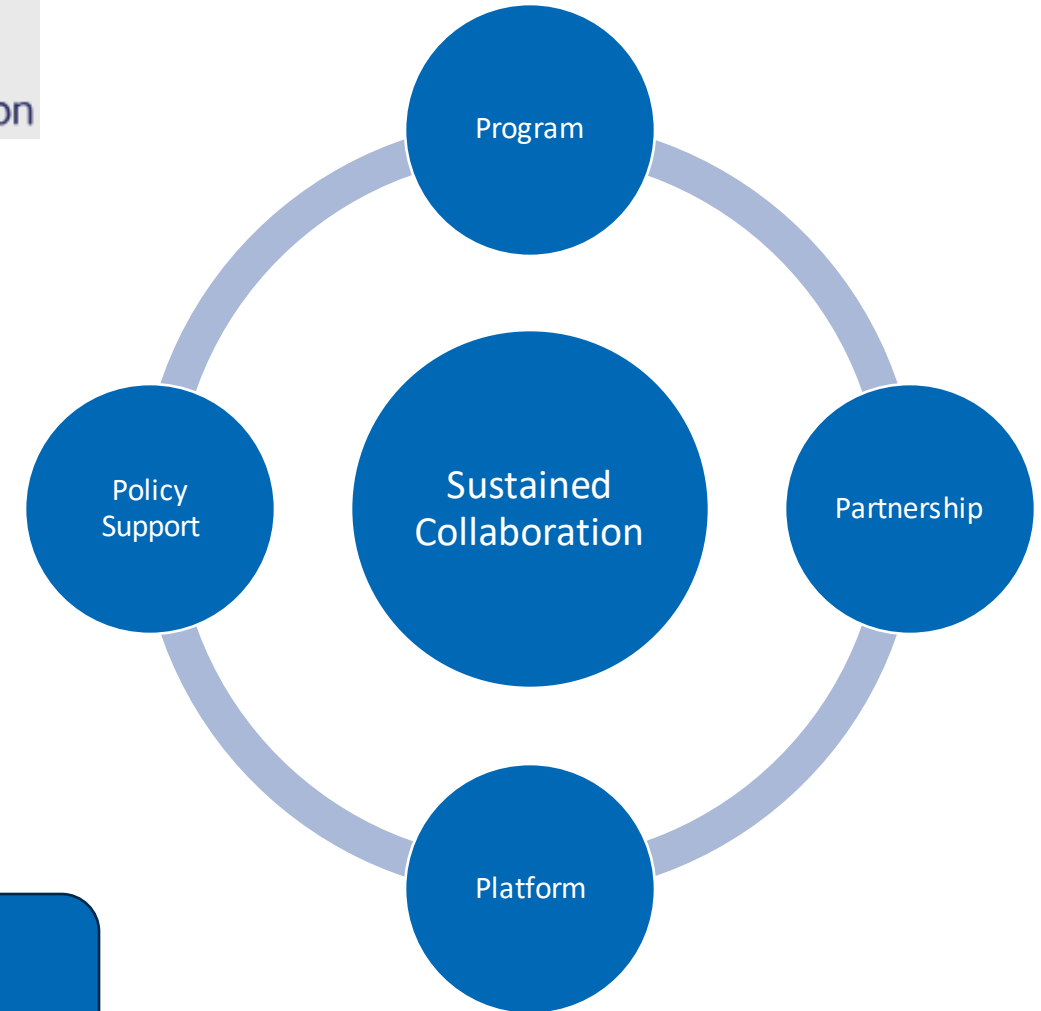
Other developing countries scale examples across the world :

India, China, Bangladesh, Poland, Moldova, South Africa, Mexico, Ghana, Thailand, Malaysia, Indonesia, Costa Rica, Brazil, etc.

Program

Policy Support

Sustained Collaboration

Partnership

Platform

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VIRTUAL SKILL-UP IS A COST-EFFECTIVE SMARTPHONE APP THAT LEVERAGES VR TO CREATE AN IMMERSIVE LEARNING ENVIRONMENT

App is downloadable from Apple App Store / Google Play Store
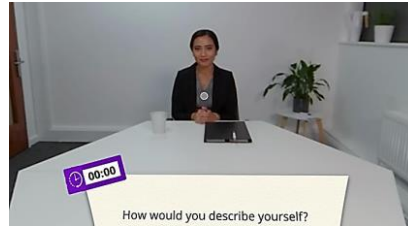

App Demo
- How to navigate (VR/360˚)
- How module & scoring work

Interview
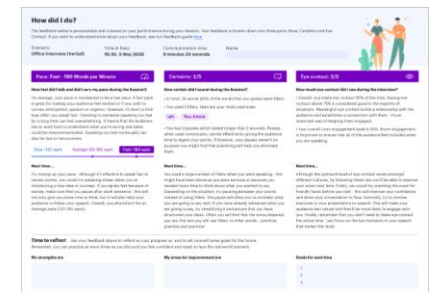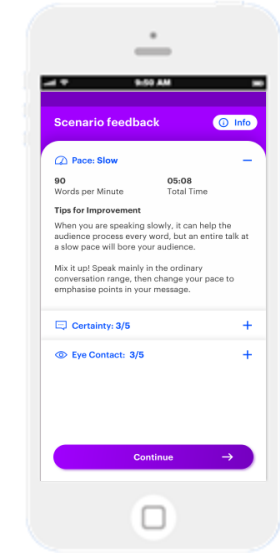- Verbal Questions
- Text-based Questions

Public Speaking
- Auditorium
- Classroom

Pitching
- Entrepreneurial Pitch
- Elevator Pitch

Gamified Live Scoring & Completion Feedback incl. Feedback Card

Languages available:

English   Portuguese   Spanish

ACCENTURE BRAZIL'S SOCIAL INNOVATION CENTER IS A PHYSICAL LOCATION TO PROMOTE KN0WLEDGE & COLLABORATION IN THE COMMUNITIES OF RECIFE

Through technology, the center promotes experiences and collaborative activities that help develop soft skills, understanding of basic technology terms, knowledge about emerging technologies, applicability of tools in the job market and the opportunity for direct contact with technologies for practical use.

CHAT GPT HAS WOKEN UP THE WORLD TO THE TRANSFORMATION POTENTIAL OF ARTIFICIAL INTELLIGENCE, SPARKING A WAVE OF CREATIVITY RARELY SEEN BEFORE

A new era of generative AI for everyone

The technology underpinning ChatGPT will transform work and reinvent business

- "…….Generative AI will impact tasks, not occupations. Some of those tasks will be automated, some will be transformed through AI assistance, and some will be unaffected.

- We can also expect a large number of new tasks for people to perform, such as ensuring the accurate and responsible use of generative AI systems."

- "Easy-to-consume generative AI applications like ChatGPT, DALL-E, Stable Diffusion and others are rapidly democratizing the technology in business and society"

- *Accenture Report, "AI for Everyone", March 2023*