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
Lessons from a global digital readiness program on AI

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

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.

Teena Sahu developed “Happiness Guru” in high school to predict mental depression.
Learning Module Summary: Instructor Led, Hi-Tech + Hi-Touch

Demystify (12 hours)

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)

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 OpenVino

13. Project (8h)
    Interactive Data Dashboard & Presentation

Acquire (50 hours)

14. Intro to Modeling in AI (4h)

15. Evaluating AI Models (6h)

16. Ethical Frameworks for AI (2h)

17. No-Code AI tools for Statistical Data (2h)

18. Statistical Data (8h)
   Use Case Walkthrough

19. No-Code AI tools for Computer Vision (2h)

20. Computer Vision (8h)
    Use Case Walkthrough

21. No-Code AI tools for Natural Language Processing (2h)

22. Natural Language Processing (8h)
    Use Case Walkthrough

23. Project (8h)
    Creation of No-Code Project & Presentation

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

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)

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

Experience (52 hours)

36. Statistical Data Processing & Visualization (4h)
    Numeric Variables, Data import, Box Plot

37. IOT Fundamentals & Development tools (4h)
    IOT Devices & Applications

38. AI for SDGs (2h)
    Supervised Learning & Classification Algorithms

39. Statistical Data (6h)
    Use-Case Walkthrough

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

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

46. Project Design, Build & Presentation (8h)

47. Introduction to AI Deployment Tool (8h)
    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.
Albania Example of Collaboration Model With World Bank

- 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

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

Other developing countries scale examples across the world:

- India, China, Bangladesh, Poland, Moldova, South Africa, Mexico, Ghana, Thailand, Malaysia, Indonesia, Costa Rica, Brazil, etc.
Developing advanced digital skills with low-cost resources

Suzanne Hickey
Global Skills to Succeed Technology Lead, Accenture
UK
VIRTUAL SKILL-UP IS A COST-EFFECTIVE SMARTPHONE APP THAT LEVERAGES VR TO CREATE AN IMMERSIVE LEARNING ENVIRONMENT

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

Languages available:
- English
- Portuguese
- Spanish

App is downloadable from Apple App Store / Google Play Store

Gamified Live Scoring & Completion Feedback incl. Feedback Card

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ACCENTURE BRAZIL’S SOCIAL INNOVATION CENTER IS A PHYSICAL LOCATION TO PROMOTE KNOWLEDGE & 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.
“.......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