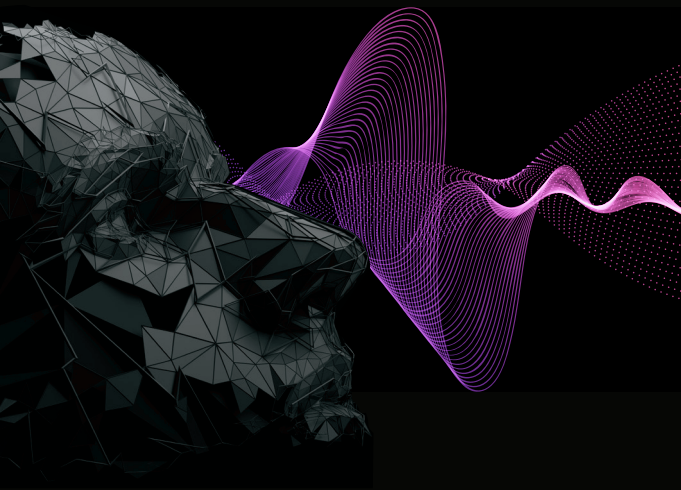
AI Week
November, 2019
Tel Aviv University

Info I Events



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Yuval Ne'eman Workshop for Science, Technology and Security Tel Aviv University

TEL AVIV UNIVERSITY אוניברסיטת תל אביב

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WEEKLY AGENDA

Tracks Roundtable Workshop Hackathon

SUNDAY, NOV 17 – WORKSHOPS DAY

	Naftali Bldg. Room 001	Naftali Bldg. Room 004	Naftali Bldg. Room 104
08:00	08:00-09:00 **Gathering & Registration**		
09:00	09:00-12:00 **Transformers - building the models powering BERT**	09:00-12:00 **Reinforcement Learning for Recommendation Systems**	09:00-12:00 **Herding cats: Product management in the machine learning era**
10:00			
11:00			
12:00			
13:00	13:00-16:00 **Best Practices in Deep Learning and the Art of Research Maintenance**	13:00-16:00 **Building a Reinforcement Learning based solution with RL Coach**	13:00-16:00 **Data Science from Research to Production with Jupyter, Kubeflow & Nuclio**
14:00			
15:00			
16:00			
17:00			
18:00			

SUNDAY, NOV 17 – WORKSHOPS DAY

	Naftali Bldg. Room 208	Naftali Bldg. Room 527	Administration Bldg. Room 308
08:00	08:00-09:00 **Gathering & Registration**		
09:00	09:00-12:00 **Hello Neuron: A hands-on intro to deep learning**	09:00-12:00 **Going unconventional: Julia, HPC and machine learning**	09:00-12:00 **Prototyping a "Deep Learning at the Edge" usecase using the Intel Movidius Neural Compute Stick**
10:00			
11:00			
12:00			
13:00	13:00-16:00 **Serving Deep Learning Models from a Data Science and Engineering Perspective**		13:00-16:00 **Ray - Distributed Platform by UC Berkeley**
14:00			
15:00			
16:00			
17:00			
18:00			

Tracks Roundtable Workshop Hackathon

MONDAY, NOV 18

	Smolarz Auditorium	Nature Museum	Naftali Bldg. Room 003
08:00	08:00-18:00 **Main Plenary & Research Symposium** **+ Poster Exhibition**		
09:00			
10:00		10:40-17:10 **NLP Track**	10:40-17:10 **AI in Healthcare Track**
11:00			
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			

Tracks Roundtable Workshop Hackathon

MONDAY, NOV 18

	Recanati Bldg. Leon Auditorium	Jaglom Auditorium	Administration Bldg. Room 308
08:00			
09:00			
10:00	10:40-17:00 **Hardware for AI Track**	10:40-15:30 **Automotive & Autonomous Track**	
11:00			
12:00			
13:00			
14:00			
15:00			
16:00		16:30-18:30 **New Frontiers in Training AI Experts for Industry**	16:00-18:00 **France-Israel Round Table: Together Achieving AI for Humanity**
17:00			
18:00			

Tracks Roundtable Workshop Hackathon

TUESDAY, NOV 19

	Smolarz Auditorium	Nature Museum	Beit Hatfutsot, Bnei Zion Auditorium
08:00	08:00-18:00 **Main Plenary & Innovation Track** **+ Startup Exhibition**		
09:00			
10:00			
11:00		11:00-17:20 **Algorithms Track**	11:00-17:20 **Systems for AI Track**
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			

Tracks Roundtable Workshop Hackathon

TUESDAY, NOV 19

	Recanati Bldg. Leon Auditorium	Jaglom Auditorium
08:00		
09:00		
10:00		
11:00	11:00-17:20 **Computer Vision Track**	11:00-17:20 **AI in Corporate Track**
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		

Tracks Roundtable Workshop Hackathon

WEDNESDAY, NOV 20

	Intel Petach Tikva	ICRC Meeting Room
12:00		12:30-15:30 **The Italy-Israel Bilateral Workshop on AI**
13:00		
14:00		
15:00		
16:00		
17:00	17:30-24:00 **AI Hackathon – AI for Social Good**	
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		

Tracks Roundtable Workshop Hackathon

THURSDAY, NOV 21

	Intel Petach Tikva
07:00	07:00-21:00 **AI Hackathon – AI for Social Good**
08:00	
09:00	
10:00	
11:00	
12:00	
13:00	
14:00	
15:00	
16:00	
17:00	
18:00	
19:00	
20:00	

Workshops Day: Sunday, November 17th

The workshops are for registered participants only
08:00-09:00 Gathering & Registration

09:00-12:00 Naftali Bldg. Room 001

Transformers – Building the Models Powering BERT

Run by - Yuval Peleg: NLP Research Engineer, SparkBeyond

Summary:

- The concept of BERT (Bidirectional Encoder Representations from Transformers) was published by researchers at Google AI Language last year, and since then it has been used to yield top results in many NLP benchmark tasks. This workshop will dive deep into the workings of BERT. Participants will build a transformer model in Pytorch.

Prerequisites:

- Knowledge of Python, experience with PyTorch is recommended, experience with deep neural networks.

13:00-16:00 Naftali Bldg. Room 001

Best Practices in Deep Learning and the Art of Research Maintenance

(Intro to TRAINS open source experiment manager and version control)

Run by - Dan Malowany: Head of AI, Allegro.ai

Summary:

- The workshop will cover deep learning best practices - Hyperparameter search, data biasness, diminishing returns and productive use of an experiment management platform. There will be an Introduction to Trains - Open source experiment manager for deep learning projects. Participants will take part in the following:
  - » Working with Trains I - Effective hyperparameter search with Trains
  - » Working with Trains II - Data auditing with Trains
  - » Installing Trains Backend - Installing and working with local trains-server

Prerequisites:

- Basic knowledge of Python, Jupyter notebook and deep learning

09:00-12:00 Naftali Bldg. Room 004

Reinforcement Learning for Recommendation Systems

Run by - Sergey Ermolin: Principle Solutions Architect, AI/ML, Amazon Web Services

Summary:

- In this tutorial, there will be a step-by-step overview on how to implement, train, and deploy an RL-based recommender system with realtime multivariate optimization. AWS SageMaker RL will be used as a platform.

13:00-16:00 Naftali Bldg. Room 004

Building a Reinforcement Learning Based Solution with RL Coach

Run by - Dan Elbaz: Research Engineer, Intel

Summary:

- Coach is a python reinforcement learning framework containing implementation of many state-of-the-art algorithms. It exposes a set of easy-to-use APIs for experimenting with new RL algorithms, and allows simple integration of new environments to solve. Basic RL components (algorithms, environments, neural network architectures, exploration policies, ...) are well decoupled, so that extending and reusing existing components is fairly painless.
  The workshop will:
  1. Introduce reinforcement learning basic concepts
  2. Introduce Intel's Coach reinforcement learning framework
  3. Go through a hands on step by step tutorial for building a Reinforcement Learning based solution from scratch with RL Coach.

09:00-12:00 Naftali Bldg. Room 104

Herding Cats: Product Management in the Machine Learning Era

Run by – Ira Cohen: Chief Data Scientist, Anodot

Summary:

- This tutorial will go through the cycle of developing machine learning based capabilities (or entire products) and the role of the (product) manager in each step of the cycle.
- While the role of the manager does not require deep knowledge of machine learning algorithms - it does require understanding of how ML based products should be developed and bridge the gap between product/business requirements and the inherent uncertainty that is at the basis of any machine learning based solution. This uncertainty follows an ML based solution at all phases: there is rarely certainty that any ML based solution can solve a given business problem, the development cycle involves research iterations to continuously try improving the results - a cycle that is not deterministic.

13:00-16:00 Naftali Bldg. Room 104

Data Science from Research to Production with Jupyter, Kubeflow & Nuclio

Run by - Or Zilberman: Chief Data Scientist, Iguazo

Summary:

- Deploying machine learning models from training to production requires companies to deal with the complexity of moving workloads through different pipelines and re-writing code from scratch. The workshop will demonstrate how simple it is to automatically transfer a full machine learning pipeline from Jupyter notebook to scale-out serverless functions for event-driven and real-time applications. It will also address versioning challenges, showing how serverless functions can enable developers to update machine learning models and code together as a single versioned entity. The session will include a deep walkthrough and interactive demos.

Prerequisites:

- Knowledge of Python, Basic ML, Basic docker understanding is helpful although not necessary

09:00-12:00 Naftali Bldg. Room 208

Hello Neuron: A Hands-on Intro to Deep Learning

Run by - Dr. Eyal Gruss: Machine learning researcher and new-media artist

Summary:

- The workshop will introduce deep neutral networks, and go through hands-on building, training and evaluation of convolutional neutral networks for image recognition. A laptop and google account are required to participate.

Prerequisites:

- Knowledge of Python, Scikit-learn, Logistic regression, Binary classification, Cross entropy, Multi class classification, Multi label classification, Overfitting, TPR, FPR, ROC, AUC

13:00-16:00 Naftali Bldg. Room 208

Serving Deep Learning Models from a Data Science and Engineering Perspective

Run by - Jenia Gorokhovsky: Algorithms Team Lead, Taboola

Summary:

- A serving system for Deep Learning models is a tricky design problem. It's part of the Data Scientist's core loop - so it should be very flexible, and running an experiment on live traffic should be easy. It's often also part of the core production flow - so we want it to scale well, adapt to changing traffic patterns, and have low latency. In this workshop participants will discuss key design considerations and build a POC for such a system locally using the technologies we use at Taboola for serving TensorFlow models. Participants will then build a (hopefully realistic) example of each component in the system - training, deployment, serving, configuration, and metrics

Prerequisites:

- Working knowledge of modelling in TensorFlow. Ability to build and run Docker containers.

09:00-12:00 Naftali Bldg. Room 527

Going Unconventional: Julia, HPC and Machine Learning

Run by - Gleb Ivashkevich: Y-DATA instructor, founder at datarythmics

Summary:

- The goal of the workshop is to introduce Julia both as a language and as an actual tool for solving specific ML problems.

Prerequisites:

- Any professional with strong enough programming or machine learning experience should be able to easily follow the workshop.
- We encourage attendees to install Julia and Juno IDE, as well as some packages before the workshop to make things smoother.

09:00-12:00 Administration Bldg. Room 308

Prototyping a "Deep Learning at the Edge" usecase using the Intel Movidius Neural Compute Stick

Run by - Vishnu Madhu: AI Technical Solutions Engineer, Intel

Summary:

- The session will highlight the use of Intel Movidius NCS for offloading the compute in a power constrained environment. Attendees will work in teams to develop the different model inference components involved in a typical AI usecase (like for eg: Security Surveillance)

Prerequisites:

- Knowledge of basic Linux Bash, basic Python/ C ++, basic understanding of Machine Learning/ Deep Learning

13:00-16:00 Administration Bldg. Room 308

Ray – Distributed Platform by UC Berkeley

Run by – Eran Avidan: Intel Advanced Analytics

Summary:

- Ray is a fast and simple framework for building and running distributed applications. The same code can be run on a single machine to achieve efficient multiprocessing, and it can be used on a cluster for large computations. In this workshop, participants will learn how Ray works and review its architecture. Then, participants will quickly dive into a variety of exercises where you will tackle different problems using Ray. Finally, participants will also review and use Modin. Modin uses Ray to provide an effortless way to speed up your pandas notebooks, scripts, and libraries.

Prerequisites:

- Experience in Python programming, basic knowledge in algorithms

MAIN PLENARY & RESEARCH TRACK

08:00-18:00 Smolarz Auditorium

*** Research poster exhibition is available all day**

08:00-08:45 **Gathering**

08:45-09:20 **Main Plenary Opening session**
Moderator: Menny Barzilay, CEO, Cytactic
Ms. Gili Drob-Heistein, Executive Director,Blavatnik Interdisciplinary Cyber Research Centre,TAU
Yaniv Garty, Vice President at Intel; General Manager of Intel Israel

09:20-09:35 ***Israel's Initiative for Secured Intelligence System***
Maj. Gen. (Ret.) Prof. Isaac Ben Israel, Head of the Blavatnik Interdisciplinary Cyber Research Center; Chariman, Yuval Ne'eman Workshop for Science, Technology and Security, TAU
Prof. Eviatar Matania, Professor, School of Political Science, Government and International Affairs, TAU

09:35-10:10 ***Keynotes***
Dr. Ben Lorica, Chief Data Scientist, O'Reilly Media
Prof. Amnon Shashua, Senior Vice President and CEO, Mobileye, an Intel Company

10:10-11:10 ***Panel: A World Review: National Approaches to AI R&D***
Moderator: Dr. Aviv Zeevi, VP Technological Transfer Division at the Innovation Authority
Opening remarks: Dr. Ami Appelbaum, Chairman of the Israel Innovation Authority and Chief Scientist at the Ministry of Economy and Industry.
Participants in this panel include:
Irina Orssich, DG Communications Networks, Content and Technology, European Commission
Kai Fong CHNG, General Manager, EDB, Singapore - focusing on unmet market needs in AI
Bertrand Braunschweig, INRIA FRANCE, Coordination du plan national de recherche en intelligence artificielle

11:10-11:20 **Break**

11:20-11:40 **Research symposium opening session**
Reinforcement Learning for Extended Intelligence
Prof. Shie Mannor, Professor, Technion - Israel Institute of Technology

11:40-12:00 ***Talk about images: Learn to reason about the perceived world***
Prof. Gal Chechik, Associate Professor, The Leslie and Susan Gonda(Goldschmied)

12:00-12:20 ***AutoML: Automatic Algorithm Selection and Pipelines Generation***
Prof. Lior Rokach, Professor, Faculty of Engineering Science, Ben Gurion University of the Negev

12:20-12:40 ***Scaling up Innovation through Analogy Mining***
Dr. Dafna Shahaf, Assistant Professor in Data Science, The Rachel and Selim Benin School of Computer Science and Engineering, Hebrew University of Jerusalem

12:40-13:40 **Lunch Break**

13:40-14:00 ***The Missing Elements in NLP***
Prof. Yoav Goldberg, Professor, Department of Computer Science, Bar-Ilan University

14:00-14:20 ***Is Deeper Better Only When Shallow Is Good?***
Shai Shalev-Shwartz, Professor, The Rachel and Selim Benin School of Computer Science and Engineering, Hebrew University of Jerusalem; CTO, Mobileye

14:20-14:40 ***Deep Learning Theory***

Recent advances in the Information Theory of Deep Neural Networks and the Computational Benefits of the Hidden Layer
Prof. Naftali Tishby, Professor, Computer Science and Computational Neuroscientist, The Rachel and Selim Benin School of Computer Science and Engineering, Hebrew University of Jerusalem

14:40-15:00 ***Analyzing Optimization and Generalization in Deep Learning via Trajectories of Gradient Descent***
Dr. Nadav Cohen, Assistant Professor, School of Computer Science, TAU

15:00-15:30 ***Optimization's Hidden Gift to Learning: Implicit Regularization***
Prof. Nati Srebo, Professor, University of Chicago

15:30-16:00 **Networking afternoon break**

16:00-16:10 ***FSGAN: Photo-realistic model-free video face swapping and reenactment (ICCV 2019)***
Yuval Nirkin, PhD student, Bar-Ilan University

16:10-16:20 ***Lipstick on a Pig: Debiasing Methods Cover up Systematic Gender Biases in Word Embeddings But do not Remove Them (NACCL 2019)***
Hila Gonen, PhD Student, Natural Language Processing and Deep Learning, Bar Ilan University

16:20-16:30 ***A Mean Field Theory of Quantized Deep Networks: The Quantization-Depth Trade-Off (NeurIPS2019)***
Yaniv Blumenfeld, Master Thesis Student (EE), Technion - Israel Institute of Technology

16:30-16:40 ***Delta-encoder: an effective sample synthesis method for few-shot object recognition (NeurIPS2018)***
Eli Schwartz, Computer Vision and Deep Learning Researcher, IBM

16:40-16:50 ***Modelling Uncertainty by Learning A Hierarchy of Deep Neural Connections (NeurIPS2019)***
Raanan Yehezkel Rohekar, Research Scientist, Intel AI Lab

16:50-17:00 ***A Deep Reinforcement Learning Perspective on Internet Congestion Control (ICML2019)***
Noga H. Rotman, PhD student, Hebrew University of Jerusalem

17:00-17:10 ***Adversarial Feedback Loop (ICCV 2019)***
Firas Shama, Research Engineer, Huawei

17:10-17:40 ***Guest Keynote: Rethinking Control***
Prof. Elad Hazan, Professor, Google AI, Princeton University

17:40-17:50 **Announcing Best Poster winner & Symposium closing**

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NATURAL LANGUAGE PROCESSING (NLP) TRACK

10:40-17:10 Nature Museum

10:40-11:10	***Deep Learning at Booking.com*** Pavel Levin, Principal Data Scientist, Booking.com
11:10-11:20	**Break**
11:20-11:50	***Semantic Characteristics of Schizophrenic Speech*** Vered Zilberstein, Computer Science M.Sc student, Tel Aviv University
11:50-12:00	**Break**
12:00-12:30	***Project Debater: How Persuasive Can a Computer Be?*** Noam Slonim, Distinguished Engineer and Principal Investigator, Project Debater, IBM Research AI
12:30-13:40	**Lunch Break**
13:40-14:10	***AI in Any Language: Using Deep Learning to Build Truly Global Named Entity Recognizer*** Kfir Bar, Chief Scientist, Basis Technology
14:10-14:20	**Break**
14:20-14:50	***Consolidating and Exploring Open Textual Information*** Prof. Ido Dagan, Professor, Bar-Ilan University
14:50-15:00	**Break**
15:00-15:30	***Alexa, Can You Help Me Shop?*** Dr. Yoelle Maarek, VP, Heading Research for Alexa Shopping, Amazon
15:30-16:00	**Networking Afternoon Break**
16:00-16:30	***State of the Art Natural Language Processing at Scale*** David Talbi, CTO, Pacific AI
16:30-16:40	**Break**
16:40-17:10	***AI for the Enterprise - Scaling, Trusting, and Advancing AI*** Dr. Aya Soffer, Vice President of AI Tech, IBM Research AI organization

AI IN HEALTHCARE TRACK

10:40-17:10 Naftali Bldg. Room 003

10:40-11:10 ***Harnessing Big Data for Personalized Medicine***
Prof. Eran Segal, Professor, Weizmann Institute of Science

11:10-11:20 **Break**

11:20-11:50 ***Title tbc***
Dr. Nathalie Bloch, Director, Digital Health Innovation Center, Sheba Medical Center

11:50-12:00 **Break**

12:00-12:30 ***Title tbc***
Eyal Toledano, Co-Founder & CTO, Zebra Medical Vision

12:30-13:40 **Lunch Break**

13:40-14:10 ***Talk TBD***

14:10-14:20 **Break**

14:20-14:50 ***Lessons Learned Applying Natural Language Processing for Healthcare AI***
David Talbi, CTO, Pacific AI

14:50-15:00 **Break**

15:00-15:30 ***Improving Parkinson's Disease Research & Care using AI***
Chen Admati, Head of Intel Pharma Analytics Platform, Intel - Advanced Analytics

15:30-16:00 **Networking Afternoon Break**

16:00-16:30 ***Data Science in HealthCare: Cutting the lines in the ERs***
Dr. Kira Radinsky, CTO & Chairman, Diagnostic Robotics

16:30-16:40 **Break**

16:40-17:10 ***Spatio-Spectral Analysis of Giga-Pixel Pathology Images (WSI) for Precision Medicine***
Albert Achtenberg, CTO, Nucleai

HARDWARE FOR AI TRACK

10:40-17:00 Recanati Bldg. Leon Auditorium

10:40-11:10 ***Low Power, High Resolution, Real Time Video Processing Using Deep Learning***
Orr Danon, CEO, Hailo Technologies

11:10-11:20 **Break**

11:20-11:50 ***Addressing the Challenges of Supporting At-Scale, Time-Sensitive Deep Learning Inference Workloads***
Ofri Wechsler, AIPG Inference Lead Architect, Intel

11:50-12:00 **Break**

12:00-12:30 ***Scaling AI Training Systems with the Gaudi Processor***
Eitan Medina, CBO, Habana

12:30-13:40 **Lunch Break**

13:40-14:10 ***No Hardware AI: Processing Deep Learning Models on Commodity Hardware***
Prof. Nir Shavit, CEO, Natural Magic

14:10-14:20 **Break**

14:20-14:50 ***Resource-Efficient Quantized Deep Learning***
Dr. Daniel Soudry, Technion - Israel Institute of Technology

14:50-15:00 **Break**

15:00-15:30 ***Taking AI to the edge***
Rafi Dalla Torre, Head of Advanced Research Group, Samsung Israel Research

15:30-16:00 **Networking Afternoon Break**

16:00-17:00 ***A Practical Guide for Reducing DNN Training Time***
Yaki Tebeka, Distringuished Software Engineer, NVIDIA & Yuval Mazor, Senior Solution Architect, NVIDIA

AUTOMOTIVE & AUTONOMOUS TRACK

10:40-15:30 Jaglom Auditorium

10:40-11:10	***From Vehicle Operation to Riding Experiences with Adaptive Agents*** Claudia V. Goldman, Staff Researcher User Experience Technologies Lab in General Motors, Israeli Technical Center
11:10-11:20	**Break**
11:20-11:50	***Dream it. Train It. Drive It! AI in Automotive Pre-Autonomous Era*** Gal Melamed, Director of AI Products, Toyota Connected Europe
11:50-12:00	**Break**
12:00-12:30	***Talk TBD***
12:30-13:40	**Lunch Break**
13:40-14:10	***Where AI Meets Automotive*** Alik Gorenshtein, Data and AI Innovation Manager, Alliance Innovation Lab TLV
14:10-14:20	**Break**
14:20-14:50	***Process-Based Industrial AI - From Theory to Practice*** Dr. Yuval Nardi, Chief Data Scientist, Seebo
14:50-15:00	**Break**
15:00-15:30	***Driving to the Future with AI*** Ruby Chen, Head of Hyundai CRADLE Tel Aviv, Hyundai Motor Company Dr. Gregory Bartoff, Vice President, Autonomous Vehicles System Development Center, Hyundai Mobis

NEW FRONTIERS IN TRAINING AI EXPERTS FOR INDUSTRY

16:30-18:30 Jaglom Auditorium

Israel Innovation Authority: New Frontiers in Training AI Experts for Industry

Presenting an innovative approach to advanced training in AI: outside academia and in conjunction with industry careers. Moderated by Naomi Krieger Carmy, Head of Societal Challenges Division at the Israel Innovation Authority, this session will highlight best practices and examples from Israel and abroad, presenting the Authority's new initiative to financially support the training AI experts.
Target audience includes CEOs, R&D managers, AI and Data Science experts, HR managers, researchers and professionals dealing with innovation in human capital development for the tech industry.

Guest speaker in this session is Dr. Tianhui Michael Li, Founder of The Data Incubator

* This session will be conducted in Hebrew, except for the talk by Dr. Tianhui Michael Li, which will be in English

Orgenized by:

רשות החדשנות
Israel Innovation Authority

FRANCE-ISRAEL ROUNDTABLE: TOGETHER ACHIEVING AI FOR HUMANITY

16:00-18:00 Administration Bldg. Room 308

Registration is required for this event

Run by: Dr. Bertrand Braunschweig, Engineer; Coordinator ENSIIE; The research component of France's AI strategy &
Major Gen. (Ret.) Prof. Isaac Ben-Israel, Director Blavatnik Interdisciplinary Cyber Research Center, Tel Aviv University

Summary
France's Artificial Intelligence Strategy aims at fostering the best expertise in this field and spreading AI in the economy and administration, while ensuring a permanent dialog between performance and humanity. The final goal is not only fueling economic growth but also defining an ethical model for the development of AI, so that the technology developed can truly improve citizens' and workers' life conditions. Considering those objectives and the sectors defined as priorities (health, mobility, industry, security), French and Israeli ecosystems match perfectly and can move forward together in order to achieve AI for humanity.

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EN ISRAËL

Be sure to check out the Israel Innovation Authority's STARTUP PAVILION at the Smolarz Auditorium on 18th and 19th. The Startup Pavilion, organized by the Israel Innovation Authority, will present Israel's thriving AI startup ecosystem, displaying some of the most pioneering, revolutionary technologies that are shaping the world of AI globally.
You are all invited to meet and network with the companies who will have a groundbreaking impact on the AI global market, including:

- Allegro.ai
- Binah.ai
- Cognata
- DiA Imaging Analysis
- DigitalOwl
- Jungo Connectivity Ltd.
- Magentiq Eye Ltd.
- MedHub
- NoTraffic
- Nym Health
- Razor-Labs
- Shoodoo Analytics
- Wearable Devices Ltd.

MAIN PLENARY & INNOVATION TRACK

08:00-18:00 Smolarz Auditorium

08:00-08:45 **Gathering**

08:45-09:15 **Opening session**
Moderator: Menny Barzilay, CEO, Cytactic
Prof. Ariel Porat, President, Tel Aviv University

09:15-10:35 **Keynotes**
Artificial Intelligence – Government Facilitating Innovation
Aharon Aharon, CEO, The Israel Innovation Authority
Can we Wait for Humans to Solve the World's Grand Challenges?
Sergey Davidovich, Co-founder & CEO, Spark Beyond & Dr. Ron Karidi, Co-founder & CTO, Spark Beyond
Deep Learning for Higher-Level Cognition (Video Talk)
Prof. Yoshua Bengio, Scientific Director, Mila, Quebec AI Institute
Navigating the Perfect Storm, Enabling the AI Era
Shaul Cohen, Algorithm Group Manager, Applied Materials
Pragmatic AI
Jean-Luc Chatelain, Managing Director & CTO Accenture Applied Intelligence

10:35-11:00 **Break**

11:00-12:50 ***The Business of AI***
Israel Innovation Authority – Startup session
Opening remarks: Anya Eldan, VP Innovation Authority and Head of Startup Division, The Israel Innovation Authority
Keynote: Clemens Viernickle, CEO, Merantix Automotive
VC-CEO Fireside Chats
Kobi Samboursky, Co-founder, Glilot Capital & Yonatan Appel, CTO and Co-founder, Upstream Security
Anat Nacshitz, Managing Director, OrbiMed Israel & Dr. Hovav Dror, CSO, MDClone
Nir Bar Lev, CEO, Allegro & Aaron Applbaum, Partner, MizMaa Ventures
Startups pitch
Hila Goldman Aslan, CEO, DiA Imaging Analysis
Ohad Sason, Sales and BD Manager, Razor Labs
Amir Raskin, CEO and Co-founder Shoodoo Analytics

12:50-13:50 **Lunch Break**

13:50-14:20 ***ISO/IEC standardization of AI: Opportunities for companies & startups***
Dalia Yarom, Standardization Division Director, The Standards Institution of Israel

14:20-14:30 **Break**

14:30-15:00 ***Explainable Artificial Intelligence (XAI) and Predictive Information approaches for Industrial applications***
Prof. Irad Ben-Gal, Professor & Head of Laboratory of AI, ML ,Business & Data Analytics (LAMBDA) TAU

15:00-15:10 **Break**

15:10-15:40 ***Blind Super-Resolution Kernel Estimation using an Internal-GAN***
Sefi Bell Kliglerm, MSc. graduate, Weizmann Institute of Science

15:40-16:10 **Networking Afternoon Break**

16:10-16:40 ***Talk***
Speaker tbc

16:40-16:50 **Break**

16:50-17:20 ***Who Is A Good Decision Maker? Data-Driven Decision Ranking without Ground Truth Data***
Dr. Tomer Geva, Head of the Business Analytics Program, Coller School of Management, TAU

COMPUTER VISION TRACK

11:00-17:20 Recanati Bldg. Leon Auditorium

11:00-11:30 ***When Active Learning Meets Multi-Armed Bandit Problems***
Dr. Marcelo Bacher, Expert Machine Learning Team Leader, Applied Materials

11:30-11:40 **Break**

11:40-12:10 ***Translation of Music Genres and Voices***
Adam Polyak, Research Engineer, Facebook AI Research

12:10-12:20 **Break**

12:20-12:50 ***How can Deep Video Super Resolution Help to Protect Aircrafts from Missile Launches?***
Ziv Freund, Director, Head of AI and Deep Learning Research Group, Elbit Systems EW & SIGINT – Elisra

12:50-13:50 **Lunch Break**

13:50-14:20 ***The Evolution of the Brain: Implications to AI***
Prof. Yaniv Assaf, Professor of Neurobiology, TAU Co-Founder, BrainVivo

14:20-14:30 **Break**

14:30-15:00 ***Deep Learning in Medical Imaging: Learning with limited Data & Noisy Labels***
Hayit Greenspan, Professor, Tel Aviv University

15:00-15:10 **Break**

15:10-15:40 ***Deep-Learning Based Video Inspection for Graphics Processor Testing***
Dr. Amitai Armon, Chief Data Scientist, Intel - Advanced Analytics

15:40-16:10 **Networking Afternoon Break**

16:10-16:40 ***Wix Media AI Image Studio***
Nickolay Mykhailych, Data Scientist, Wix.com

16:40-16:50 **Break**

16:50-17:20 ***Practical Explainability and tuning in DNN: real use cases***
Tsvi Lev, General Manager, NEC corporation

SYSTEMS FOR AI TRACK

11:00-17:20 Beit Hatfutsot, Bnei Zion Auditorium

11:00-11:30 ***Personalization at Scale: Challenges and Practical Techniques***
Hagay Lupesko, Engineering Leader, Facebook AI Applied Research

11:30-11:40 **Break**

11:40-12:10 ***Federated Learning in the Real World***
Dr. Aviv Keren, Deep Learning Researcher, Edgify

12:10-12:20 **Break**

12:20-12:50 ***Benefits and Challenges of combining Deep Learning and Search***
Edo Liberty, Founder, HyperCube

12:50-13:50 **Lunch Break**

13:50-14:20 ***Simplifying Production Machine Learning with MLflow***
Daniel Haviv, Solutions Architect, Databricks

14:20-14:30 **Break**

14:30-15:00 ***Running Effective Machine Learning Teams: Common Issues, Challenges, and Solutions***
Gideon Mendels, CEO, Co-Founder, Comet.ml

15:00-15:10 **Break**

15:10-15:40 ***Simplified Data Preparation for Machine Learning n Hybrid and Multi Clouds (Video session)***
Dr. Bin Fan, Founding Engineer, Alluxio

15:40-16:10 **Networking Afternoon Break**

16:10-16:40 ***How to Re-train your Model in Production the Right Way***
Oren Razon, Co-Founder & CTO, superwise.ai

16:40-16:50 **Break**

16:50-17:20 ***PPresidio - Automated Identification and Anonymization of PII Data at Scale***
Omri Mendels, Sr. Data Scientist, Microsoft

ALGORITHMS TRACK

11:00-17:20 Nature Museum

11:00-11:30 ***Learning Representations for Planning***
Aviv Tamar, Department of Electrical Engineering, Technion - Israel Institute of Technology

11:30-11:40 **Break**

11:40-12:10 ***Leveraging the Power of Bagging in Multiple Instance Classification***
Omer Shalev, Data scientist, Intel - Advanced Analytics

12:10-12:20 **Break**

12:20-12:50 ***Close Enough but not More of the Same - Personalized Diversity in Recommender Systems***
Dr. Gil Chamiel, VP of Algorithms and Data Science, Taboola

12:50-13:50 **Lunch Break**

13:50-14:20 ***Automated Machine Learning***
Peter Prettenhofer, Vice President Engineering, DataRobot

14:20-14:30 **Break**

14:30-15:00 ***Goal Recognition Design***
Dr. Sarah Keren, Postdoctoral Fellow, Harvard School Of Engineering And Applied Sciences

15:00-15:10 **Break**

15:10-15:40 ***Computer Agents that Interact Proficiently with People***
Prof. Sarit Kraus, Professor of Computer Science, Bar-Ilan University

15:40-16:10 **Networking Afternoon Break**

16:10-16:40 ***Paired-Consistency: An Example-Based Model-Agnostic Approach to Fairness Regularization in Machine Learning***
Dr. Yair Horesh, Principal Data Scientist, Intuit

16:40-16:50 **Break**

16:50-17:20 ***Brain-In-The-Loop for AI Training and Validation***
Sergey Vaisman, VP R&D, InnerEye

AI IN CORPORATE TRACK

11:00-17:20 Jaglom Auditorium

11:00-11:30 ***Problem Solving with AI: Data Science on Steroids***
Guy Shaked, Director of AI, SparkBeyond

11:30-11:40 **Break**

11:40-12:10 ***Accelerate AI in the Enterprise***
Moty Fania, Principle Engineer, Intel - Advanced Analytics

12:10-12:20 **Break**

12:20-12:50 ***AI Inside: The Story & Learnings of the Internal Start-up that Transforms Intel***
Nufar Gaspar, Data Science Solutions Vertical Manager, Intel - Advanced Analytics

12:50-13:50 **Lunch Break**

13:50-14:20 ***Machine Learning on Encrypted Data: Opportunities and Challenges***
Dr. Alon Kaufman, CEO, Duality

14:20-14:30 **Break**

14:30-15:00 ***"Know Your Data!" Test Driven Data Science***
Gershon Celniker, Data Science and AI manager, Check Point

15:00-15:10 **Break**

15:10-15:40 ***Cost-Efficient Malware Detection Using Deep Reinforcement Learning***
Yoni Birman, Head of Cyber Security Department, MOD

15:40-16:10 **Networking Afternoon Break**

16:10-16:40 ***Architecting a Large Scale Time-series Forecasting Servicey***
Moran Cohen, Machine Learning Engineer, Anodot

16:40-16:50 **Break**

16:50-17:20 ***Precise Detection in Densely Packed Scenes***
Eran Goldman, Algorithm Developer, Trax

AI HACKATHON – AI FOR SOCIAL GOOD

17:30-24:00 Intel Petach Tikva

*By Approved Application Only

The AI Week hackathon will take place during 20-21/11, and will be hosted in Intel's new smart building in Petach-Tikva. The focus of the hackathon is utilizing AI for social good: healthcare, education, environment and more.
The participants will be introduced with several data-science challenges, and each team will try to solve one of them during the hackathon. The best solution of each challenge will receive an award.

The challenges:

Senior strategic planning and policy division, civil service commission, Prime Minister's Office

We are moving forward for better understanding, planning, managing and preparing of civil service workers in light of the rapid changes of the workforce.
Help us map and cluster the Occupations and missions of Israel`s civil service employees based on textual descriptions.

The Sheba Medical Center at Tel Hashomer - Predicting Chronic Disease Use medical records of annual tests to predict the onset of chronic disease

The dataset includes anonymized test results of healthy patients over years. It also includes diagnosis of disease onset. The goal is early prediction of the onset of disease.

Proactive Municipal Service, Western Galilee Cluster

The municipal dispatch is a hatch to the city's circle of life and its hidden mechanism of cause and effect. The Municipalities of the Western Galilee wish to move forward – from responding to initiating. We hold data accumulated over the years of residents who try to improve their day to day life by calling for help from the municipal service hotline. Our challenge is to reduce calls by predicting future incidents and engage them before they create public hassle.

Open social good challenge: Environment, Health and Education
Utilize a large repository of public datasets regarding environment, health and education, to promote social good using AI. You may also use another dataset of your own choice.

THE ITALY - ISRAEL BILATERAL WORKSHOP ON AI

12:30-15:30 ICRC Meeting Room

*By Invitation Only

The Italy-Israel Bilateral Workshop on AI will take place in Tel Aviv for its second edition on the 20th of November. After the positive result of the first edition, The Embassy of Italy in Israel, in collaboration with the organizers of the AI Week and the Israel Italy Chamber of Commerce, repeats this unmissable opportunity to strengthen the collaboration between the two countries in the Artificial Intelligence field.

Specifically, the workshop aims at encouraging and improving the dialogue and confrontation among the experts of both countries with the aim of establishing concrete and fruitful international collaborations.

An Italian delegation, headed by Prof. Rita Cucchiara, Director of the Director CINI National Lab for Artificial Intelligence, will exchange views with Israelis colleagues in order to identify potential scientific collaborations aimed at meeting the needs of the industrial sectors of both countries. For the second edition of the bilateral workshop, two main themes have been selected:

1. Automotive, urban & people mobility;
2. Health Tech.

The workshop, hence, represents a concrete chance for both countries to create strong and enduring relations between the Italian industrial sector and the Israeli AI ecosystem.

The Artificial Intelligence sector will represent in the very foreseeable future one of the most relevant business for the development of every Economy worldwide. Therefore, it is of absolute importance to encourage the collaboration between countries and professionals of the field.

In cooperation with

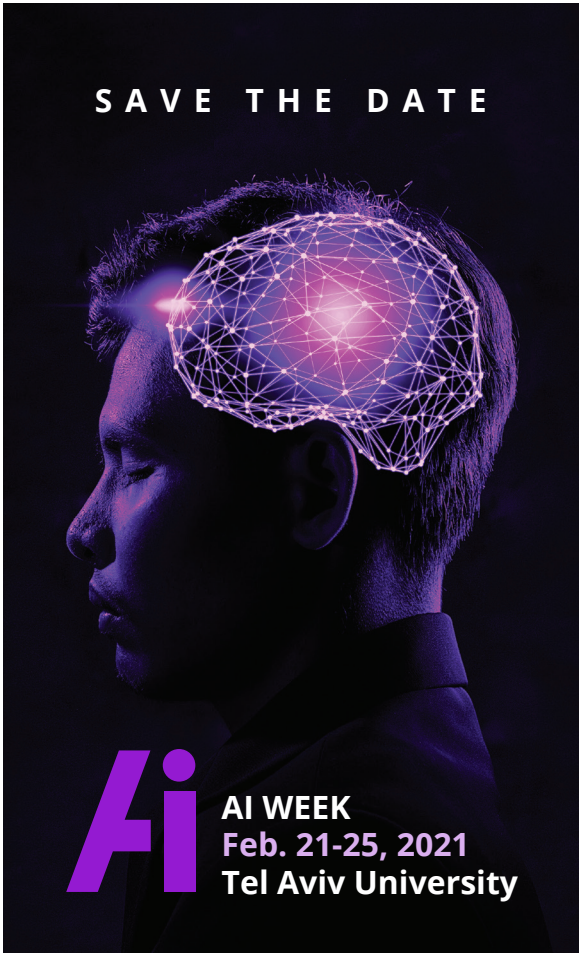
Embassy of Italy in Israel

AI HACKATHON – AI FOR SOCIAL GOOD

07:00-21:00 **Intel Petach Tikva**

***By Approved Application Only**

The AI Week hackathon will take place during 20-21/11, and will be hosted in Intel's new smart building in Petach-Tikva. The focus of the hackathon is utilizing AI for social good: healthcare, education, environment and more.
The participants will be introduced with several data-science challenges, and each team will try to solve one of them during the hackathon. The best solution of each challenge will receive an award.



SHARE WOOD STUDIOS

Yuval Ne'eman Workshop for Science, Technology and Security Tel Aviv University

ICRC Blavatnik Interdisciplinary Cyber Research Center

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