Quarterly digest

Welcome to the third edition of InstaDeep's quarterly newsletter. It's been our best quarter to date filled to the brim with initiatives keeping us busy. We are delighted to share our updates with you below. Enjoy!

INSTADEEP WINS COMPETITIVE TENDER WITH DEUTSCHE BAHN TO DEVELOP AN AI-SYSTEM TO DIGITISE RAILWAY OPERATIONS

The contract to develop a Deep Reinforcement Learning-powered CTMS AI prototyping tool is part of a 12-year digitisation initiative to make the German railway fit for the 21st century.

Deutsche Bahn recently announced that InstaDeep has been awarded the contract to research and develop an AI product to support the transformation of their initiative to automate railway planning and dispatching. InstaDeep's AI-based decision-making system uses a combination of Operations Research combined with Deep Reinforcement Learning, an area where InstaDeep has had numerous successes over the last few years.

The contract is the result of a public tender issued this August to develop a Capacity & Traffic Management System (CTMS). The contract win is a huge milestone for InstaDeep and an incredible opportunity for us to showcase our expertise and the work which has led us here. "By awarding us the tender contract, Deutsche Bahn are demonstrating their trust in our ability to deliver. An important success factor was undoubtedly our track record offering innovative AI products and solutions in areas where few competitors can demonstrate previous commercial success" says Karim Beguir, CEO of InstaDeep. With the project team already on-prem in Germany, we look forward to seeing the collaboration come to fruition.

READ THE FULL STORY HERE

JOINT INSTADEEP-DEEPMIND AI RESEARCH ACCEPTED AT NEURIPS 2019 WITH AN UNPRECEDENTED TOP 2.4% GLOBAL RANKING

InstaDeep's recently published pioneering AI research, Towards Compositionality in Deep Reinforcement Learning, has been accepted for a spotlight talk at the thirty-third Annual Conference on Neural Information Processing, NeurIPS 2019. The global AI conference is considered the most prestigious in its field, a statement underlined by the record-breaking number of applications this year. From a total of 6743 global submissions, only 1428 papers were accepted – meaning a 79% rejection rate – and only the top 2.4% were awarded a spotlight presentation making it a significant achievement for InstaDeep.

InstaDeep's Thomas Pierrot led the research effort in collaboration with Scott Reed and Nando de Freitas from Google DeepMind. As mentioned in our last newsletter, the innovative research aims to answer how knowledge acquired in one setting can be transferred to other settings. It proposes a novel deep reinforcement learning algorithm, AlphaNPI, that harnesses the power of compositionality and recursion to learn complex programs.

Presenting at NeurIPS, with a spotlight distinction, is not only an impressive achievement by InstaDeep's R&D team, it is also a historic first for an African-founded AI company. Taking on the stage to present our findings to the global AI elite in Vancouver in December will be a proud moment for us. We are thankful to our team for placing InstaDeep on the map yet again - well done everyone!!

READ MORE   **READ THE RESEARCH PAPER**
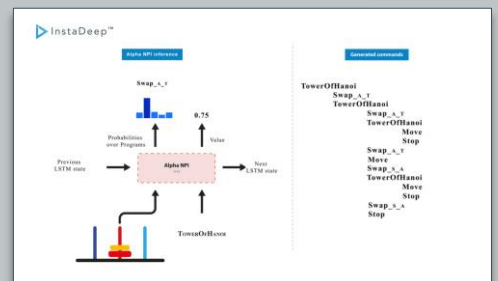
Nando de Freitas (Google DeepMind) presenting our joint research at the EurNLP 2019 conference in London in October.

INSTADEEP MAKES HISTORY BY CO-ORGANISING THE LARGEST ML HACKATHON IN AFRICA AND THE MIDDLE EAST ATTRACTING MORE THAN 1000 PARTICIPANTS

What a weekend!! We are still blown away by the incredible vibe that pulsated throughout AI Hack Tunisia – Africa and the Middle East's largest AI hackathon ever, which took place between 20th – 22nd September in Tunis. During the weekend, participants from more than 20 different countries competed in individual and team challenges all hosted on the platform of our partner Zindi. With a total of six ML tracks offered simultaneously, the contestants worked, for the first time, on solving genuine practical problems with real Tunisian data. The passion for AI was evident in the way everyone embraced the tasks at hand! The team challenge offered the opportunity to show entrepreneurial spirit and AI product innovation.

This year's AI Hack Tunisia saw an impressive 1,000+ registered participants. We truly enjoyed seeing so many young talents come together to learn and develop their skills during the event, and we are amazed by the dedication and knowledge-sharing we witnessed. The event was co-organised in collaboration with **Google's MENA Developer Ecosystem team, led by Salim Abid, and the Tunisian Ministry of Industry and SME, represented by Kais Mejri.** We also had a significant number of partners and volunteers helping out. We want to extend a huge thank you to everyone involved and naturally send our congratulations to all our winners!

"Unbelievable experience at AI Hack Tunisia"
— Adem Bouguedra, Start-up challenge winner

"So honoured to participate at #AIHackTunisia the greatest hackathon in Africa and MENA region. It was a great learning experience, both professionally and personally."

— Ouafa Hachem, Data Scientist

For more information, read the blog post here (spoiler alert – it announces all the winners), or re-live the event with the full live recording and a highlights video here **CLICK FOR LIVE RECORDING   CLICK FOR HIGHLIGHTS**
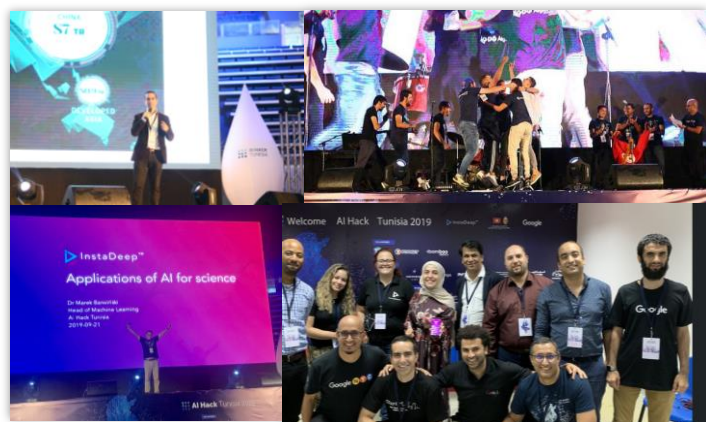
A RECORD-BREAKING DEEP LEARNING INDABA:
7 POSTER PRESENTATIONS - 5 KEYNOTES - 2 PRIZES!

End of August saw the successful execution of the 3rd Deep Learning Indaba, this time taking place in Nairobi. An unprecedented fifteen InstaDeepers ventured to the Kenyan capital to participate in and provide unrestricted support to the African ML community. During the week-long event, we presented a **record number of seven posters**, with contribution from all our five offices. Two of our Research Engineers from Lagos, Tejumade Afonja and Lawrence Francis, also won prizes for their posters – huge congratulations!

Our DL Indaba continued with AI Researcher Rihab Gorsane and CEO Karim Beguir giving a **total of five talks** between them in front of a packed audience. Additionally, the InstaDeep booth was throbbing with energy throughout the week with international figures dropping by, including Dr Richard Socher, Chief Scientist at Salesforce.

We are proud of our longstanding relationship with DL Indaba as a contributor and sponsor. Through our involvement, we have witnessed first-hand the intense, non-stop work that takes place behind the scenes to make the Indaba event a success. This year's event indeed saw the hard work come to fruition and we can whole-heartedly say that the level of AI sophistication has become world-class. As an example, our Lagos team presented **new research** on unsupervised Neural Machine Translation (NMT) from Nigerian Pidgin to English.

We are also thrilled to announce that Karim has joined the **Indaba as a steering committee member!**

One of his first tasks was to join the committee in revealing the next host country which is… **TUNISIA!!** See you there in 2020!

READ MORE

What have others been saying about us in Q3? See for yourselves below!

Co-Founder Zohra Slim was featured in **Forbes Middle East**'s article <u>Show Them The Money</u>

InstaDeep was shortlisted in **The Sunday Times**'s Tech Track 'Ones to watch' 2019 list!

THE SUNDAY TIMES TECH TRACK ONES TO WATCH SHORTLISTED 2019

Read what **Leaders.com** had to say about AI Hack Tunisia!

Both <u>African Exponent</u> and <u>The Guardian</u> included us in their funding overviews!

Hear Karim speak about Deep RL in the <u>TWIML podcast</u>.
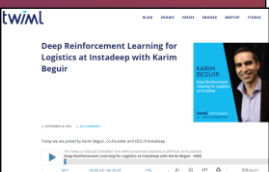
INSTADEEPERS AROUND THE GLOBE

Amine Kerkeni presenting our RL platform at the O'Reilly Intel AI Conference in San José.

Karim Beguir at AI Expo Africa with his keynote "Bootstrapping AI in Africa".

Congratulations, Yunguan Fu, on your latest research on laparoscopic image segmentation being accepted for The Medical Image Computing and Computer Assisted Intervention (MICCAI) 2019 MIL3ID workshop! The research showed that independent of an increase in unlabelled data, the semi-supervised training strategy improves segmentation accuracy. **RESEARCH PAPER**
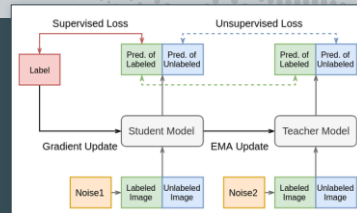
Q3 saw InstaDeep's Head of Product, Amine Kerkeni, qualify as a Google Developer Machine Learning Expert! As only one of <u>130 certified ML experts</u> in the Google network world-wide this is an incredible achievement. Congratulations, Amine!

SKY IS THE LIMIT AS WE JOIN THE TRAVEL & HOSPITALITY VENTURE PROGRAM

This Autumn, InstaDeep extended its partnership with VC firm Plug And Play as we joined their Travel & Hospitality vertical! The program opens for unique introductions to corporations within the aviation industry in need of ML and AI, and it has already seen us visiting Silicon Valley and Zurich for meaningful introductions. As of earlier this year, InstaDeep is already part of the Plug And Play's Supply Chain Batch, and we see great synergy between the two verticals.

The announcement comes hot on the heels of Senior AI Engineer Dr Sinda Ben Salem joining InstaDeep this summer. Sinda has extensive in-house experience from Etihad Airline and Air France and will undoubtedly add value to the partnership. We're on cloud nine and look forward to seeing what the Autumn brings!

Upcoming Events

OCTOBER

Internal Client Event
Houston, USA

Intel O'Reilly AI Conference
London, UK
14-17th October

Internal Client Event
Dharan, Saudi Arabia

NOVEMBER

Nvidia GTC
Washington DC, USA
4th - 6th November

AI and Ethics
London, UK
12th November

DECEMBER

Plug And Play Winter Expo
Sunnyvale, USA
3 - 5th December

NeurIPS 2019
Vancouver, Canada
8th - 14th December

We hope you enjoyed reading our newsletter.
For questions or feedback contact <u>communications@instadeep.com</u>

Editor in chief: **Celine Normann**, Communications Manager