BOOTCAMP 2024

Artificial intelligence in the Média industry

May 29th, 2024
https://www.smpte-mtlqc.org/

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WORD OF WELCOME

Hello, on behalf of the Montreal SMPTE Committee, I'd like to welcome you to your Bootcamp 2024.

During our first brainstorming session this year, the topic of Artificial Intelligence (AI) quickly became the focus of our group's attention.

Indeed, the media are and will be major users of AI, integrating it into their production, broadcast and even content creation processes.

It's undeniable that AI will have an impact on the way we work, produce and design systems. We hope this Bootcamp will stimulate you and awaken in you the reflections we need to undertake to properly integrate this technology into our future lives.

To help us get to grips with this complex subject, we joined forces with the experts at Entertain-AI (E-AI), who gave us a great deal of support in creating the day's agenda. Their input was essential in framing this vast and constantly evolving subject.

I'd like to thank all my colleagues on the Montreal SMPTE committee and at E-AI for the colossal amount of work they've put in over the last few months. We wish you a wonderful day exploring this fascinating world!

Happy BootCamp!
This text was not written by E-AI 😉

David Beaulieu, Radio-Canada,
Chairman SMPTE Montreal Committee

INFORMATIONS GÉNÉRALES

Here's a quick reference summary to make it easier for you to follow all the action, and everything included in the booklet.

- A SURVEY is proposed, and we'll draw 2 gift cards of $200 each, encouraging local purchases, on June 22 among those who complete the survey to help us "play it better".

- INTERACTIVE QUESTIONS - Interactive questions will be put to the audience via the Mentimeter platform. Prizes may be awarded.

- SCHEDULE OF THE DAY. We will strictly adhere to the schedule to facilitate replay.

- Access to ETS WiFi:
  - Network: ETS-Invites,
  - User: wifi-even@etsmtl.ca,
  - Password: Eve-2020

- Access to presentations in PDF format will be provided via the following links as they become available (to come after the bootcamp):

  English presentations

SURVEY

To ensure that our bootcamps live up to your expectations, we'd like to ask you to take part in our survey by going to SURVEY.

To help you accumulate your evaluations, we've included places in the schedules where you can record them throughout the day and then enter them online. We recommend that you enter them directly after each presentation.

If you complete the survey, you'll have a chance to win a surprise certificate.

You'll have until June 5, 2024 (1 week after the end of Bootcamp 2024) to complete it. The committee will then draw two gift certificates worth $200, valid at any retailer to encourage local purchases, from among those who complete the survey.

You'll need to provide your e-mail address to enter the draw.

The name of the winner will be communicated to participants by e-mail.

The winner will receive details on how to claim his or her prize.

SOCIAL NETWORKS

Share your experience on social networks using the keyword:

#BootCampSMPTE2024

INTERACTIVE QUESTIONS

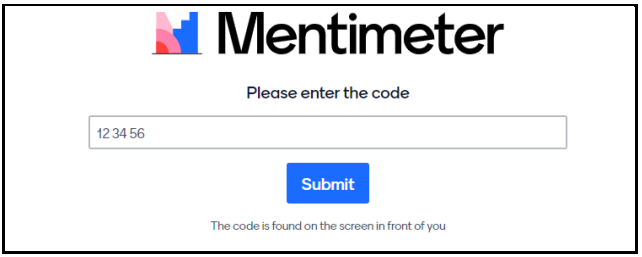
During the course of the day, some interactive questions will be put to the audience via the Mentimeter platform, which is an interactive question/answer presentation software.

We will use this quiz to award prizes.

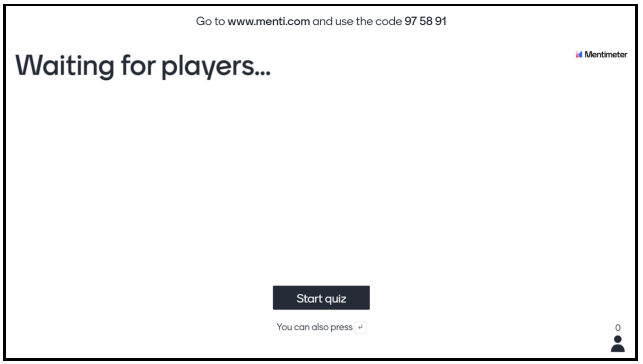
Instructions for participating in the interactive questions:

1. Go directly to www.menti.com

2. Enter the code shown at the top of the question displayed on the screen



3. Enter your **full name** (no pseudonyms, please) before the question appears.



4. As soon as the question appears, answer it before the countdown ends.

5. Results will be posted on a leaderboard during the day.

DAILY SCHEDULE

08:00 Registration, coffee and pastries

09:00 Welcome address (FR)
Presenter:
David Beaulieu, President, SMPTE Montréal/Québec

09:05 Keynote (FR)
Presenter:
Alexandre Teodoresco - Vice-President, Strategic Development and Innovation, Les 7Doigts and Co-Chairman of the Entertain-AI Executive Board

09:20 Introduction, day's objectives, day's proceedings (FR)
Presenter:
François Bourdua, Governor 2023-2024, SMPTE Montréal/Québec

09:30 Introduction to AI and data science (FR)
Presenter:
Jean-François Connolly, Director, Sciences and Operations/ Airudi

It's often said that AI adoption is everyone's business in an organization.

This presentation aims to democratize AI and enable its use in all organizations, regardless of size, that have completed or are in the process of a digital transformation

We will provide an overview of methods, applications and risks, enabling participants to better understand the potential and risks of AI in relation to their professional reality.

DAILY SCHEDULE
(continued)

09:40 Part One:

09:40 Focus on AMD technologies (EN)
Presenter:
Sean Gardner, Director Video Strategy and Market Development, AECG/ AMD

In the fast-changing landscape of audiovisual production, the integration of artificial intelligence (AI) is becoming increasingly crucial.

Advanced Micro Devices (AMD) is leading this transformation, leveraging its cutting-edge technology to revolutionize multimedia workflows.

This presentation will discuss AMD's wide range of processors, including CPUs, GPUs, FPGAs and VPUs, focusing specifically on the MA35D Visual Processing Unit (VPU).

The flagship MA35D features more than 22 TOPS per board, and illustrates the high-performance capabilities essential for "Pixel AI" tasks such as content-sensitive encoding, text and logo detection, and super-resolution. These tasks are finely optimized at pixel level to reduce latency and computational loads, making them ideal for on-board processing.

The presentation will also highlight AMD's upcoming products, such as the Mi300 GPU and EPYC processors, designed to further enhance AI-based broadcast production.

These powerful and versatile solutions address both on-premise and cloud workflows, essential for broader AI applications such as content moderation, known as "application AI", which leverage scalable external computing resources.

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

DAILY SCHEDULE
(continued)

10:05 How the world's fastest AI processing interacts with the media (EN)

Presenter:
Mark Heaps, Chief Technology Evangelist/ Groq

How does the world's fastest AI processing interact with media? Mark Heaps, Chief Technology Evangelist and VP of Creative at Groq Inc, will show how AI technology is not only ready for tomorrow, but ready now. Bootcamp participants will benefit from a comprehensive overview of the current state of artificial intelligence (AI) technology and its applications in the media industry.

Through a series of demonstrations, Mark will illustrate the variety of applications created by the Groq AI developer community, showing how these innovations are improving the workflow of creators and professionals involved in media and social media production in film. The LPU inference engine, Groq's cutting-edge technology, enables the world's fastest inference for AI applications, making these advances possible.

Mark will also present an in-depth look at the evolution of AI technology and its implications for the media industry. He will discuss the key considerations and opportunities that arise from integrating AI with creativity, highlighting Groq's potential to propel the next generation of AI-based innovation in the media sector.

Key takeaways:
- How Groq technology is transforming workflows
- How Groq's LPU will impact media/production environments
- What increased human capabilities mean for the next generation of media workers

Survey (Rating: (-) 1 to 5 (+))
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Quality of presentation: ....._____
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DAILY SCHEDULE
(continued)

10:35 Break, coffee and pastries

10:50 Part 1 (continued):

10:50 Intel's new AI products (FR)
Presenter:
Emmanuel Rochette, Senior AI Solutions Architect/ Intel

This presentation will provide a comprehensive overview of Intel's latest AI technologies. The first topic will cover new AI gas pedals in Intel processors, such as Xeons for data centers or Ultra Core processors.

The presentation will continue by exploring Intel's newest approach to deep learning: the new Gaudi3 AI processor.

As Intel is also a world leader in open source software development, the presentation will explain how oneAPI enables the deployment of AI on Intel's infrastructure.

The presentation will conclude with an overview of Intel's future in the foundry sector.

Survey (Rating: (-) 1 to 5 (+))
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Quality of presentation: ....._____
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11:20 NVIDIA AI for Live Media (EN)
Presenter:
Thomas True, Senior Engineer, Professional Video and Image Processing/ NVIDIA

Live media production today faces the challenge of delivering engaging content that builds audience loyalty with new personalized, interactive and immersive viewer experiences.

DAILY SCHEDULE
(continued)

The creative use of artificial intelligence (AI) technologies is a tool to help studios achieve this goal.

Developing and deploying AI-enabled products requires an end-to-end developer stack.

NVIDIA provides the most advanced platform for the development of AI solutions for media with innovations at every layer of the stack, from accelerated computing platforms to essential AI software development kits (SDKs), pre-trained models and AI foundries for the deployment of AI-based media processing. on-premise, at the edge or in the cloud.

Survey (Rating: (-) 1 to 5 (+))
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Quality of presentation: ....._____
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11:45 - The transformative power of AI/ML in the media leveraging AWS services (EN)
Presenter:
Abbas Nemr, Senior Solution Architect / AWS

In this session, we'll explore the transformative power of AI/ML in the media and entertainment industry.

We'll cover compelling use cases such as content moderation, live captioning, automated video clips, content personalization and localization.

Find out why AWS is the ideal platform for running AI/ML workloads, with its comprehensive AI/ML stack addressing different user profiles.

Get ready to dive into real-world architectural models and discover how you can start using AWS for your AI/ML needs in the M&E space.

Survey (Rating: (-) 1 to 5 (+))
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Quality of presentation: ....._____
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DAILY SCHEDULE
(continued)

12:10 Power your AI transformation in Media with the Microsoft Cloud(FR)
Presenter:
Amaël Laurier, AI/ Microsoft Data Sales Specialist
Mathieu Ruel, Account Manager

Artificial intelligence (AI) is evolving rapidly, and Microsoft is playing a key role in this acceleration.

Microsoft is strategically positioning itself in the AI field, with a focus on generative AI and Copilots.

This presentation will address the impact of AI in media and entertainment, illustrated by customer case studies.

We will also discuss Microsoft's responsible framework for AI, and conclude with a demonstration of a Copilot to accelerate enterprise analytics.

Survey (Rating: (-) 1 to 5 (+))
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Quality of presentation: ....._____
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12:40 Lunch (included in the registration fee)

13:40 Part 2: Use cases

13:40 Use case 1 - Transforming multimedia resource management with AI-based semantic search (EN)
Presenter:
Rob Gonsalves, Technology Fellow/ Avid

Content creators need more than traditional research methods to meet the demands of speed, accuracy and relevance.

This presentation explores a transformative case study from Avid's Advanced Research and Development Center.

DAILY SCHEDULE
(continued)

Development (RAD Lab), where artificial intelligence (AI) and machine learning (ML) were used to overhaul traditional search mechanisms with semantic search capabilities. Leveraging AI technologies, the project established a more efficient, accurate and cost-effective method for searching and retrieving multimedia content.

The presentation will begin with an overview of the shortcomings of conventional search techniques that rely heavily on manually tagged metadata. It will compare these with advanced AI/ML approaches that use semantic indexing to understand and interpret the contextual and cultural nuances of media content. The main objectives of this initiative were to enhance search functionality, improve retrieval accuracy and reduce operational costs.

The planning and implementation phases of the project are described, demonstrating the integration of Avid ecosystem components (Nexis, Elasticsearch and Cloud-UX) resulting in a seamless transition from a proof of concept to a fully functional demo.

We will discuss Avid's involvement with the Canadian Mitacs program, which provides funding to support research internships for graduate students and post-doctoral fellows in collaboration with industry partners.

Key results and performance metrics will be presented, highlighting the project's achievements in terms of accuracy, time efficiency and cost-effectiveness. A live demonstration will showcase the capabilities of enhanced semantic search within the Cloud-UX platform.

Finally, the presentation will address the challenges encountered during implementation, celebrate the successes achieved and outline the future roadmap, which includes scaling the solution and extending its capabilities to additional media types.

DAILY SCHEDULE
(continued)

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

14:05 Use Case 2 - Whisper by Open AI and Radio-Canada: From POC to production (FR)

Presenters:
Santiago Mendoza Rivera, Senior Machine Learning Developer/ Radio Canada
Thomas LeJouan, Senior Product Manager, Digital Media/ Radio Canada

From Ici Première to Ici Musique Classique, from national to regional programs, from podcasts to major series, Radio-Canada produces dozens of hours of content every day.
In order to improve our content offering and optimize our operations, transcription has become a central element in our work. On the one hand, it enables us to make our content accessible to the deaf and hard-of-hearing, and on the other, to apply various text-based machine learning methods, such as automatic summarization.

Our presentation explains the process of implementing a transcription tool at Radio-Canada, from proof of concept to production launch.

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

14:30 Use case 3 - Workflow in generative AI as a substitute for rotoscoping (FR)

Presenter:
Éloi Champagne, NFB Production Technology Strategist

Explore some tools related to generative artificial intelligence to see if it's possible to simplify and accelerate (or even replace) rotoscoping for a documentary project with animated sequences.

DAILY SCHEDULE
(continued)

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

15:00 Use case 4 - LLM Corporate ChatBot, Experimentation with generative artificial intelligence (FR)
Presenter:
Anthony Hurteau, Chief Architect, Software Architecture and Contract Management/ Radio-Canada

The recent emergence of impressive models of generative artificial intelligence is attracting as much attention as it is raising questions.

In order to explore the potential of this technology, it is essential to identify concrete case studies that can be solved using large-scale language models.

It is my privilege to present to you our attempt to create business value by leveraging generative artificial intelligence through our corporate ChatBot through the following topics:

- Generative artificial intelligence and how to meet its challenges
- ChatBot architecture and augmented retrieval generation (ARG)
- Using generative artificial intelligence beyond the ChatBot

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

DAILY SCHEDULE
(continued)

15:25 Use case 5 - Video compression and AI: fact and fiction (FR)

Presenter:
Luc Trudeau, Video compression researcher

The explosion of online multimedia content is putting a strain on broadcast and storage infrastructures. Efficient video encoding is crucial to reducing costs and guaranteeing a quality user experience.

This presentation explores how artificial intelligence (AI) is transforming the video encoding landscape, based on three key technologies:

- VMAF (Video Multimethod Assessment Fusion): AI for accurate, subjective video quality assessment.
- Content-optimized encoding: Adaptation of encoding parameters specific to each segment, for optimum quality to reduce bandwidth costs.
- Super-resolution: Broadcast low-resolution video enriched with metadata to enable AI enhancement at the recipient's end, improving visual quality while reducing bandwidth costs.

By highlighting the benefits and practical considerations of AI in these technologies, we guide professionals towards the adoption of next-generation video encoding solutions for optimized delivery and cost-effective storage.

Survey (Rating: (-) 1 to 5 (+))
Relevant topic: ....._____
Quality of presentation: ....._____
Quality of visual support:....._____

15:50 Break, coffee and pastries

DAILY SCHEDULE
(continued)

16:10 Round Table

16:10 Introduction and background (FR)
Presenter:
François Bourdua, Governor 2023-2024, SMPTE Montréal/Québec
Mark Stephens, Executive Board Member, E-AI

16:20 Round table discussion (FR)
Panelists
Mark Stephens, Executive Board Member, E-AI
Joé Trempe-Martineau, Associate Professor, Department of Management, HEC and Regular Member, Obvia
Emmanuel Agoston, President and IT Infrastructure Solution Architect, Images et Technologie
Jean-François Connolly, Director, Science and Operations, Airudi

16:50 Conclusion, thanks and presentation of awards (FR)
Presenters:
David Beaulieu, President, SMPTE Montréal/Québec
François Bourdua, Governor 2023-2024, SMPTE Montréal/Québec
Marie-Eve Bilodeau, Director, SMPTE Montréal/Québec

17:00 5 @ 7 Networking cocktail

DAILY SCHEDULE
(continued)

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Emmanuel Agoston

Title: President and IT Infrastructure Solution Architect, Images et Technologie

Bio: Emmanuel Agoston is a senior solution architect and pioneer in the M&E and AI fields. He is the founder and CEO of Images et Technologie. He leads a team of innovators and experts that combine M&E and AI expertise. Some of the IT projects they help define, orchestrate, and contribute to, have international reach and even as far as space. With more than 3 decades of technical background ranging from infrastructure, storage, networking, security, and AI, he has worked with most M&E studios in Quebec and in Canada. Emmanuel added AI to his arsenal over 8 years ago. He is now an AI practitioner and understands the benefits of AI in real IT infrastructure projects. Emmanuel is either in front of a computer transferring knowledge to someone that wants to learn, a colleague, a partner, or even his 3 kids or he is leading a meeting for the next wave of innovators sharing and spreading the pleasure of IT LIFE.

David Beaulieu

Title: President SMPTE Montréal/Québec, System Architect, CBC/Radio-Canada

Bio: David Beaulieu holds a bachelor's degree in electrical engineering from École de technologie supérieure de Montréal (ÉTS) and a Diplôme d'études supérieures spécialisés en gestion des organismes culturels from Hautes études commerciales de Montréal (HEC).

Since completing his studies, he has worked in the arts, media and teaching. He has worked with a number of visual and digital artists on the technical design of their projects, and as technical director at Molior on the logistics of exhibitions presented in Canada and internationally.

David has worked as a prop maker, then as a project manager in research and development for Cirque du Soleil

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on numerous shows. He also taught audiovisual techniques at Cégep du Vieux Montréal.

David is currently a lecturer in computer science at ÉTS. He has been President of the Montreal Chapter of the SMPTE since 2019 and Chairman of the Board of Molior since 2012.

Since 2013, he has worked at CBC/Radio-Canada, initially as a media project engineer and now as a systems architect, developing and improving media production solutions.

Marie-Ève Bilodeau

Title: Manager. SMPTE Montreal/Quebec

Bio: Passionate about media, audiovisual and the arts, Marie-Eve has a technical degree in audiovisual electronics, a bachelor's degree in electrical engineering and a master's degree in electrical engineering from ÉTS. Marie-Eve worked for Grass Valley as an FPGA Designer, then for Thinkwell Studio Montreal as a System Designer. Now a self-employed project manager, she manages interdisciplinary projects, particularly in the engineering, audiovisual, arts and even agricultural sectors. Marie-Eve is a manager on the executive committee of the Montreal/Quebec chapter of SMPTE.

Denis Bonneau

Title: Director of Sales and Business Development – Optic.ca

Bio: After spending four years as an IT and Media Solution Architect at Images et Technologie, an added-value reseller specializing in high-performance computing for M&E, AI, engineering and architecture, I recently joined Technologie Optic.ca as Director of Sales and Business Development. They are a manufacturing company specialized in optical fiber and optical products including

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transceivers. Previously, I worked four years as Technical Director for CEV, a leader in audio/video communication, broadcast, multimedia and VR technology and ten years as IT Supervisor for Vision Globale (now MELS Studios), a major player in the multi-service media business. I was involved in the design, project management and implementation of complex 3D/2D, Post-Production, Video-Streaming/encoding, high-bandwidth networks, and sound solutions for clients of global status.

With a formal education in electronics and computer science, I was exposed to generating solutions continuously based on leading edge technologies and developed strong partnerships with key manufacturers and integrator partners.

François Bourdua

Title: Consultant, Media technologies, VS-TEK
Bio: Professionally active for over 42 years, François Bourdua has worked in TV production as technical manager, and in film and television postproduction as Vice-president, technologies. During fall 2009, he started VS-TEK, a consulting and project management company.

Over the course of his career, Mr Bourdua and his teams and partners successfully took many technological challenges and were responsible for many technology premieres in film restoration, 2K/ 4K postproduction and D-Cinema just to name a few. More recently, thru VS-TEK he was involved in many key projects with customers like the CBC, Télé-Québec, Jonquière's college ATM and The Montreal Canadians hockey team.

Éloi Champagne

Title: Production Technology Strategist, ONF
Bio: As Production Technology Strategist at the National Film Board (NFB), Eloi plays a crucial role in the development and implementation of the organization's technology strategies. Its mission includes technological

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monitoring, anticipation of future needs and support for production teams. Drawing on cutting-edge knowledge in digital imaging on an international scale, it offers valuable expertise specifically applied to animation, filmmaking, XR and interactive productions. With considerable expertise in visual effects and an ability to creatively problem solve, he encourages interdisciplinary collaboration, improves operations and forges projects that meet the evolving expectations of creators and audiences. Committed to promoting technological innovation, Eloi maintains professional relationships with the film community, thus affirming the NFB's position as a leader in the industry.

Jean-François Connolly

Title: Director, Sciences and Operations/ Airudi

Bio: Interested in everything related to AI, from algorithm development to product marketing, Jean-François Connolly has accumulated 20+ years of experience in this field through his studies (M. Sc. A. and Ph. D.) and work experience for startups, SMEs and large organizations. He is now Director of Science and Operations of Airudi, an AI-driven HR Tech company. In his free time (sort of…) he is also a trainer for the Institut de valorisation des données (IVADO), on the board of directors of the Entertain-AI NPO and a mentor for various startup accelerator programs.

Sean Gardner

Title: Head of Video Strategy & Market Development - AECG, AMD

Bio: Sean Gardner is the head of video strategy and market development for AMD’s AECG business (formerly Xilinx). A 25yr industry veteran in the video streaming and broadcast markets. Starting with shift from Analog to digital. Including emergence of key technologies like SDI, DVI, HDMI and usage image processing while at Gennum. Moving to Texas Instruments in early 2000's and he began focusing on the emerging streaming market. At TI he focused on establishing the sucess of the DaVinci processor family on the infrastructure side of the market. In

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2015 joined Xilinx Broadcast group but in 2017 moved to form Xilinx's Cloud Video initiative. This has included multiple significant investments and the acquisitions.

Rob Gonsalves

Title: Engineering Fellow Avid Technology
Bio: Rob Gonsalves joined Avid Technology as their 15th employee in 1989. He helped develop the industry's preeminent nonlinear editing system Avid Media Composer, specializing in programming video effects, color correction. His work on multi-camera editing software led to Avid winning a Technology & Engineering Emmy Award. He later spearheaded the development of the architecture of Avid's media enterprise products. He is currently researching the use of AI for media production.

Mark Heaps

Title: Chief Technology Evangelist Groq
Bio: Mark Heaps is the Chief Technology Evangelist at Groq® where he leads a diverse team focused on innovative and creative AI solutions with demo applications enabled by the Groq LPU™ Inference Engine. Mark is a longtime technology evangelist who has worked with Adobe, Google, Apple, and others on various projects ranging from digital imaging to AI systems used in some of the most popular applications today. He is passionate about democratizing AI in service of advancing human agency and loves exploring how the next generation of technology end-users will interact with conversational AI. Mark is also a die-hard foodie obsessed with finding the world's best pizza – so far a hole-in-the-wall joint in Croatia (is there any other kind?) is in the lead.

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Anthony Hurteau

Title: Lead Architect Software architecture and contract, CBC/Radio-Canada

Bio: Anthony joined CBC/Radio-Canada almost 12 years ago as an IT agent providing front-line support for broadcast management software. Over the years, he has had the immense privilege of exploring several facets of broadcast and production technologies. He now works as an architect on the corporate software development side.

Amaël Laurier

Title: Data & AI Sales Specialist Microsoft

Bio: Amaël Laurier has been passionate about the data sector for around fifteen years. Through various roles such as BI Developer, Architect, Data Director and now Data and AI Sales Specialist at Microsoft, his vision remains the same: Helping companies make the most of data and the tools to highlight it in order to improve business processes.

Thomas Le Jouan

Title: Product Senior Manager, médias numériques, CBC-Radio Canada

Bio: Thomas Le Jouan is digital product manager at Radio-Canada. He is responsible for RC OHdio and the machine learning developer team.

Santiago Mendoza Rivera

Title: Machine Learning Senior Developper, CBC-Radio Canada

Bio: Santiago Mendoza is a machine learning developer at Radio-Canada. Through his professional experience, he participated in carrying out experimental development projects for applied

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research centers as well as in the design and production of AI systems for start-ups.

Abbas Nemr

Title: Senior Solutions Architect, AWS

Bio: Abbas Nemr is a Senior Solutions Architect with the AWS Telco team in Canada. With over 14 years of experience in the media and entertainment industry, Abbas has established himself as a subject matter expert in various domains including video processing, direct-to-consumer solutions, media supply chain, content personalization and machine learning applications.

Emmanuel Rochette

Title: Sr. AI Solutions Architect Intel

Bio: Emmanuel Rochette is an Sr. AI Solutions Architect based in Montreal. During his time at Intel, he closely worked with major entertainment studios, big banks, government entities, and leading manufacturers to provide cutting-edge AI solutions with Intel technology.

After graduating in Physics from McGill University, his career began in the Montreal start-up ecosystem, where he initially worked as an AI engineer. During the pandemic, Emmanuel shifted to working as a DevOps engineer for the Canadian Red Cross – contributing to build their cloud infrastructure. In his free time, Emmanuel is an avid rock climber, and he still keeps a strong passion for physics.

Mathieu Ruel

Title: Account Executive, Microsoft

Bio: Mathieu Ruel is an accomplished professional in the field of information technology. Currently, he holds the position of Account Director at Microsoft, where he plays a key role in managing customer relationships in the field of media and telecommunications in

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Quebec. As a results-driven leader, Mathieu specializes in defining strategic visions and guiding companies to realize tangible benefits through AI and digital transformation.

Mark Stephens

Title: Executive Board Member, E-AI

Bio: Mark P. Stephens serves as the Vice-President of Innovation Strategy at KNXN and is an Executive Board Member at Entertain AI. With a robust career spanning over twenty years in the Information Technology sector, Mark has been instrumental in leadership roles at leading Canadian tech companies. His tenure at E-AI highlights his profound dedication to merging Artificial Intelligence with creative industries. Mark is committed to advancing how technology amplifies artistic and media pursuits while maintaining a focus on the human element. This dedication not only drives innovation but also ensures that technological advancements enrich our cultural and creative landscapes.

Alexandre Teodoresco

Title: Vice-President, Strategic Development and Innovation, Les 7Doigts and Co-Chairman of the Entertain-AI Executive Board

Bio: Alexandre Teodoresco is the Vice-president of Strategic Development and Innovation at 7Doigts de la Main and Co-president of the Executive Board at Entertain AI. Alexandre has a keen eye for the future of live performance. His mandate is to guide 7Doigts into new markets and to design and implement strategies to explore new horizons for the company. His comfort zone and the projects he leads are at the intersection of human creativity, live performance, and technology. One of these structuring projects, LAB7, already allows 7Doigts to embark on the adventure of AR, VR, XR, AI and of course the Metaverse.

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Joé Trempe-Martineau

Title: Associate Professor, Department of Management, HEC and Regular Member,Obvia

Bio: Joé T. Martineau is Associate Professor of organizational ethics in the Department of Management at HEC Montréal. Her research, teaching, and organizational intervention interests focus on ethics and governance issues affecting private, public, and healthcare organizations. Her work has led her to reflect on the composition and effectiveness of ethics programs, the diversity of ethics management practices within organizations, the various factors influencing ethical decision-making and behavior of organizational actors, as well as the ethical issues related to digital transition and the development and deployment of artificial intelligence in organizations. She is a regular member of the International Observatory on the Societal Impacts of AI and Digital Technology (OBVIA), an associate member of the Unité de recherche en éthique pragmatique de la santé at the Institut de recherches cliniques de Montréal (IRCM), a regular member of the Institut d'éthique appliquée (IDÉA) at Université Laval, and a co-researcher at the Centre de recherche en éthique (CRÉ) at Université de Montréal.

Luc Trudeau

Title: Video compression researcher

Bio: Luc Trudeau is a researcher in the field of video compression, specializing in AV1 and VP9 formats. As co-author of the AV1 format, co-designer of the dav1d decoder, and actively working on the Eve-AV1 encoder, he plays a leading role in this industry and shapes the future of video technology. Holder of three diplomas from the École de Technologie Supérieure (ÉTS), Luc is not content with revolutionizing video compression; he also excels in sharing his knowledge during captivating presentations, thus spreading his knowledge and enthusiasm for this ever-evolving field.

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Thomas True

Title: Senior Applied Eng for Professional Video and Image Processing Nvidia

Bio: Thomas True is a Senior Applied Engineer for Professional Video and Image Processing in NVIDIA's Enterprise Products Group. In this role he works at the intersection of video and the GPU where he focuses on the integration of GPU and networking technologies into broadcast, video and film applications ranging from pre-visualization to post production and live to air. Prior to joining NVIDIA, Tom was an Applications Engineer at SGI. Thomas has a M.S. degree in Computer Science from Brown University and a B.S. Degree from the Rochester Institute of Technology. Tom is a Manager in the San Francisco Bay SMPTE Section and has spoken on the application of the GPU in broadcast and post production at the SMPTE Annual Technical Conference and SMPTE section meetings.

PRESENTER BIOGRAPHIES

(suite)

LEXICON OF TERMINOLOGY OF ARTIFICIAL INTELLIGENCE

A

- Agent intelligent: Un système capable de percevoir son environnement, d'y agir et d'atteindre des objectifs de manière autonome.
- Algorithme: Un ensemble d'instructions ordonnées permettant d'effectuer un traitement ou de résoudre un problème.
- Apprentissage automatique (Machine learning): Un domaine de l'IA qui permet aux machines d'apprendre à partir de données et d'améliorer leurs performances sans programmation explicite.
- Apprentissage profond (Deep learning): Un type d'apprentissage automatique utilisant des réseaux de neurones artificiels complexes pour apprendre des données.

B

- Big data: Ensemble de données volumineuses et complexes, souvent difficiles à traiter avec des outils traditionnels.
- Blockchain: Technologie de stockage et de transmission d'informations sécurisée, transparente et décentralisée.

C

- Chatbot: Programme informatique capable de simuler une conversation avec un humain.
- Cognition artificielle: Champ de recherche visant à reproduire les capacités cognitives humaines, telles que la pensée, le raisonnement et l'apprentissage.

D

- Données: Ensemble d'informations brutes ou traitées.
- Deep learning: Voir Apprentissage profond.

E

- Entrainement: Processus par lequel un modèle d'apprentissage automatique apprend à partir de données.

I

LEXICON OF TERMINOLOGY OF ARTIFICIAL INTELLIGENCE

(suite)

- IA (Intelligence artificielle): Champ de recherche visant à créer des machines capables d'imiter les capacités humaines, telles que la pensée, le raisonnement et l'apprentissage.

L

- Langage naturel: Langage utilisé par les humains pour communiquer entre eux.
- apprentissage par renforcement: Type d'apprentissage automatique où un agent apprend à partir de ses interactions avec son environnement.

M

- Machine learning: Voir Apprentissage automatique.
- Modèle: Représentation mathématique d'un système ou d'un phénomène.

N

- Neurone artificiel: Unité de base d'un réseau de neurones artificiels, inspirée du fonctionnement des neurones biologiques.
- Réseau de neurones artificiels: Système informatique composé de neurones artificiels interconnectés, capable d'apprendre et de traiter des informations complexes.

R

- Robotique: Champ d'ingénierie qui conçoit, construit, exploite et applique des robots.

S

- Système expert: Programme informatique capable de résoudre des problèmes complexes dans un domaine spécifique.

T

LEXICON OF TERMINOLOGY OF ARTIFICIAL INTELLIGENCE

(suite)

- Traitement du langage naturel (NLP): Champ de recherche visant à développer des interfaces informatiques capables de comprendre et de générer le langage humain.

V

- Vision artificielle: champ de recherche visant à développer des systèmes informatiques capables d'analyser et de comprendre des images et des vidéos.

Note: Ce lexique n'est pas exhaustif et de nouveaux termes apparaissent régulièrement dans le domaine de l'intelligence artificielle.

Ressources supplémentaires:

- OQLF - Vocabulaire de l'intelligence artificielle: https://www.oqlf.gouv.qc.ca/vocabulaire-intelligence-artificielle
- CNIL - Glossaire de l'intelligence artificielle (IA): https://www.cnil.fr/fr/intelligence-artificielle/glossaire-ia
- Le Glossaire de l'Intelligence Artificielle (IA) | CScience: https://www.cscience.ca/le-glossaire-de-lintelligence-artificielle-ia-cscience/
- Lexique de l'IA : 15 mots pour mieux comprendre l'intelligence artificielle - BDM: https://www.blogdumoderateur.com/lexique-intelligence-artificielle/

LEXICON OF TERMINOLOGY OF ARTIFICIAL INTELLIGENCE

(suite)

LIST OF FREE IA-BASED TOOLS

Here's a list of free AI tools, including their purposes and applications:

Tools widely used in educational and professional circles

These tools cover a wide range of AI and machine learning tasks, from natural language processing to data analysis and visualization.

OpenAI's GPT-3:

Purpose: GPT-3 (Generative Pre-trained Transformer 3) is a language model that can perform a variety of natural language processing tasks, including text completion, summarization, translation, question-answering, and more. It powers applications like ChatGPT.

TensorFlow:

Purpose: An open-source machine learning framework developed by the Google Brain team. TensorFlow is widely used for building and training machine learning models, including deep learning models for image and speech recognition, natural language processing, and more.

PyTorch:

Purpose: An open-source deep learning library that is widely used for building and training neural network models. PyTorch is known for its dynamic computational graph, making it flexible and easy to use.

Scikit-learn:

Purpose: A simple and efficient tool for data analysis and machine learning in Python. It provides a wide range of algorithms for classification, regression, clustering, and more.

Keras:

Purpose: An open-source deep learning API written in Python and capable of running on top of TensorFlow, Theano, or Microsoft Cognitive Toolkit. Keras simplifies the process of building and training neural networks.

NLTK (Natural Language Toolkit):

LIST OF FREE IA-BASED TOOLS

(suite)

Purpose: A library for working with human language data. NLTK provides easy-to-use interfaces to over 50 corpora and lexical resources, such as WordNet. It is widely used for natural language processing tasks.

spaCy:

Purpose: An open-source natural language processing library for Python. spaCy is designed for production use and is particularly efficient in processing large volumes of text.

Jupyter Notebooks:

Purpose: An open-source web application that allows you to create and share documents containing live code, equations, visualizations, and narrative text. Jupyter Notebooks are widely used for interactive data analysis and machine learning.

Pandas:

Purpose: A fast, powerful, and flexible open-source data manipulation tool built on top of the Python programming language. Pandas is commonly used for data cleaning, exploration, and analysis.

NumPy:

Purpose: A fundamental package for scientific computing with Python. NumPy provides support for large, multi-dimensional arrays and matrices, along with mathematical functions to operate on these arrays.

Matplotlib:

Purpose: A plotting library for the Python programming language and its numerical mathematics extension NumPy. Matplotlib is widely used for creating static, animated, and interactive visualizations in Python.

Seaborn:

Purpose: A data visualization library based on Matplotlib that provides a high-level interface for drawing attractive and informative statistical graphics.

LIST OF FREE IA-BASED TOOLS
(suite)

Hugging Face Transformers:

Purpose: A library that provides thousands of pre-trained models for natural language processing tasks, including text generation, translation, sentiment analysis, and more.

Fastai:

Purpose: A deep learning library that simplifies the training of neural networks. Fastai is built on top of PyTorch and provides high-level abstractions for various deep learning tasks.

Google Colab:

Purpose: A free, cloud-based version of Jupyter Notebooks that allows you to write and execute code in a collaborative environment. Google Colab provides free access to GPU resources, making it suitable for machine learning tasks.

Free tools for static image and video generation

ChatGPT

There are several free tools for static image and video generation, ranging from tools for image editing to platforms that assist in creating and editing videos. Here are some notable ones:

These tools cater to various needs in image and video generation, whether you're editing photos, creating graphics, or producing video content. Depending on your specific requirements, you can choose the tool that best fits your workflow.

Image Generation Tools:

GIMP (GNU Image Manipulation Program):

Purpose: A powerful, open-source raster graphics editor for tasks such as photo retouching, image editing, and image composition.
Website: https://www.gimp.org/

Inkscape:

LIST OF FREE IA-BASED TOOLS
(suite)

Purpose: An open-source vector graphics editor used for creating or editing vector graphics like illustrations, diagrams, line arts, charts, and logos.
Website: https://inkscape.org/

Canva:

Purpose: An online graphic design tool that offers a user-friendly interface for creating social media graphics, presentations, posters, documents, and other visual content.
Website: https://www.canva.com/

Paint.NET:

Purpose: A free image and photo editing software for Windows with support for layers, special effects, and various tools for image manipulation.
Website: https://www.getpaint.net/

Pixlr:

Purpose: An online photo editing tool with both a web and mobile version, offering a range of features similar to professional image editing software.
Website: https://pixlr.com/

Video Generation Tools:

HitFilm Express:

Purpose: A free video editing and visual effects software with advanced features, suitable for both beginners and experienced video creators.
Website: https://fxhome.com/hitfilm-express

DaVinci Resolve:
Purpose: A professional-grade video editing software that includes color correction, audio post-production, and visual effects capabilities. The free version offers extensive features.
Website: https://www.blackmagicdesign.com/products/davinciresolve/

LIST OF FREE IA-BASED TOOLS

(suite)

Shotcut:

Purpose: An open-source, cross-platform video editing software with support for a wide range of video formats and a user-friendly interface.
Website: https://www.shotcut.org/

Lightworks:

Purpose: A professional-grade video editing software with a free version available, offering advanced features and support for high-quality video editing.
Website: https://www.lwks.com/

Blender:

Purpose: While primarily known for 3D animation, Blender also has a video editing feature. It's a powerful, open-source tool for creating 3D content and editing videos.
Website: https://www.blender.org/

Kdenlive:

Purpose: An open-source video editing software for Linux, macOS, and Windows, offering a range of video editing features.
Website: https://kdenlive.org/

These tools cater to various needs in image and video generation, whether you're editing photos, creating graphics, or producing video content. Depending on your specific requirements, you can choose the tool that best fits your workflow.

USEFUL HYPERLINKS

BBC AI-Plan (2024-02-28)

https://www.bbc.co.uk/mediacentre/articles/2024/update-generative-ai-and-ai-tools-bbc

Formation

ChatGPT
https://chatgptmastertricks.com/

ChatGPT-Tricks
https://chatgptricks.notion.site/ChatGPT-Mastery-Toolkit

IVADO
https://ivado.ca/

GEN AI

Gen AI slamming into a resource wall
https://www.bigtechnology.com/p/are-llms-about-to-hit-a-wall?utm_source=tldrproduct

TLDR Information/ Newsletters
https://tldr.tech/

Manufacturiers

DDN
https://www.ddn.com/

Jailbroken AI-Chatbot/
https://slashdot.org/story/23/12/07/0144233/jailbroken-ai-chatbots

Weaponized AI:
https://www.theregister.com/2024/02/17/ai_models_weaponized

Organisations

MILA
https://mila.quebec/

Entertain AI

USEFUL HYPERLINKS

(suite)

https://entertain-ai.com/fr/

Conseil de l'innovation du Québec
https://conseilinnovation.quebec/intelligence-artificielle/publications-de-la-reflexion-collective/

Réflexions

Sam Hamper (artiste visuel)
https://www.youtube.com/watch?v=G690CqaTPJ0&t=624s

Ressources

Deep Fiction
https://www.deepfiction.ai/

META/ LLAMA
https://llama.meta.com/

Google/ Gemini
https://gemini.google.com

Weights's & Bias
https://wandb.ai/site/

Le paysage touffu de l'IA
https://mad.firstmark.com/

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NOTES


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