



Institute
for the Future
of Education

Writing Lab



Tecnológico
de Monterrey

Future of Educational Innovation-Workshop series

MACHINE LEARNING-DRIVEN DIGITAL TECHNOLOGIES FOR EDUCATIONAL INNOVATION

PROGRAM

December 15th and 16th, 2021



IEEE

DAY 1

DECEMBER 15TH, 2021

Inauguration session	9:00 am – 9:30 am	Conference registration and lobby
	9:30 am – 10:00 am	Opening statement

Lecture	10:00 am – 1:00 pm	Fundamentals of Machine Learning Prof. Amlan Chakrabarti (University of Calcutta) and Dr. Amit Das (University of Calcutta)
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Lunch break 1:00 pm – 3:00 pm

Technical session I: Digital Technologies for Educational Innovation	Moderator: Dr. Genaro Rebolledo	
	3:00 pm	Smartphones as alternatives to computers
	3:15 pm	Implementación y evaluación de clases en modalidad híbrida en el curso de bioestadística para odontología
	3:30 pm	Objeto Virtual de Aprendizaje (OVA), recurso digital para potenciar desarrollo del Pensamiento Algebraico
	3:45 pm	Networking at home
	4:00 pm	Diseño e Implementación de un Kit de Tecnología Educativa Alineado al Marco Conceptual de la Mecatrónica Educativa
	4:15 pm	STEM for projectile motion based on S4A
	4:30 pm	Aprendizaje móvil para la enseñanza de resolución de problemas de adición y sustracción en preescolar
4:45 pm	The use of finite element analysis in design courses and its effect in product development	

Technical session 2: Machine Learning in Educational Innovation	Moderator: Dr. Kingsley Okoye	
	3:00 pm	Sentiment Analysis to assess Educational Methodologies in a Competency Based Educational System
	3:15 pm	Innovating Educational Policies with Machine Learning in the Covid-19 Era
	3:30 pm	Identifying engineering interest in children through Machine Learning using biometric signals
	3:45 pm	Machine learning techniques for predicting academic performance of high school students: A comparative study of supervised classification approaches

Technical session 3: Inclusion of Digital Technologies during COVID-19 pandemic	Moderator: Dr. Asad Abbas	
	3:00 pm	VirBELA as a social interaction tool for undergraduate students during the COVID 19 Tecnologías de pandemia: El uso de WhatsApp para el aprendizaje temprano a distancia
	3:15 pm	A Novel Design Methodology for Reconfigurable Robots against COVID 19 Pandemic: Case Study Robocov at Tecnológico de Monterrey
	3:30 pm	Professors' Concerns about the Shift to Online Teaching amid COVID-19 Contingency
	3:45 pm	Undergraduate's perspective on being an effective online student during lockdown due to COVID19 pandemic
	4:00 pm	Uso de las TIC y aprendizaje autónomo en estudiantes universitarios durante la pandemia de COVID-19
	4:15 pm	Redes sociales como un canal de comunicación durante la pandemia del coronavirus en la facultad de ingeniería industrial de la Universidad Tecnológica de Panamá, Sede Central, Año 2020
	4:30 pm	Pensamiento físico vs. pensamiento proyectual. De caleidoscopios a materiales mutables

DAY 2

DECEMBER 16TH, 2021

Lobby

9:30 am – 10:00 am

Lecture	10:00 am – 1:00 pm	Machine Learning in Development of Educational Technology Prof. Amlan Chakrabarti (University of Calcutta) and Dr. Amit Das (University of Calcutta)
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Lunch break

1:00 pm – 3:00 pm

Technical session 4: Virtual and Augmented reality in education	Moderator: Dr. Genaro Rebolledo	
	3:00 pm	El impacto de la Realidad Aumentada en el aprendizaje y las emociones en Matemáticas
	3:15 pm	Experiencia de usuario utilizando una herramienta de realidad virtual
	3:30 pm	Evaluación personalizada mediante una realidad virtual
	3:45 pm	Análisis de la incorporación de una aplicación con realidad aumentada en la formación del profesional informático
	4:00 pm	Enhancing the comprehension of the internal structure of the atom with a virtual 3D environment
	4:15 pm	Estudio de herramientas de tecnología educativa para Contabilidad y finanzas logra un aprendizaje más significativo
	4:30 pm	Wow experience with Virtual Reality, the Gamification in the Tec Virtual Campus
4:45 pm	Development of online teaching tools for engineering: immersive virtual reality application for manipulation of vertical milling machine using Unity	

Technical session 5: Reimaging education and Educational Technologies	Moderator: Dr. Asad Abbas	
	3:00 pm	Development of online teaching tools for engineering: use of computational simulations for the design of a redundant robot system and artificial vision
	3:15 pm	Gamification and simulation in the distance education age for industrial engineering students
	3:30 pm	Designing Cyber-Physical-Systems & Human Factors engineering course curriculum: preparing higher education for Industry 4.0
	3:45 pm	University Technology Transfer as Social Appropriation of Knowledge in the Industry 4.0: A Social Impact Approach
	4:00 pm	Integrating Industry 4.0 and COIL into an international course on machine learning

Technical session 6: Data Science Driven Educational Practices	Moderator: Dr. Kingsley Okoye	
	3:00 pm	Architecting Neural Deep Learning Models for Learning Analytics in a Digital Humanities Laboratory
	3:15 pm	Propuesta de un diseño instruccional apoyado en estrategias de Programación Neurolingüística para la asignatura Comunicación Interpersonal del plan de estudios de la Maestría en Educación Abierta y a Distancia de la Universidad Nacional Abierta
	3:30 pm	Use of multimodal learning analytics as a contribution to the management of the teaching-learning process in Higher Education Institutions: A case study
	3:45 pm	Use of Natural Language Processing (NLP) tools for the assessment of digital literacy skills
	4:00 pm	Introducing Engineering Students to Data Science Through Based-Challenge Learning: A fast and attractive way
	4:15 pm	Advanced Learner Assistance Systems (ALAS) Recent results
	4:30 pm	Characterization of the flow of beliefs, feelings, and emotions of first-year engineering students in solving isomorphic problems of kinematics and calculus

Closure session	5:30 pm – 6:00 pm	Conference Concluding and acknowledgments
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