

SUNDAY, March 23, 2025

9:00AM - 10:30AM



ONLINE Spanish Workshop #1

Chair: Osvaldo Clua

Workshop: Transforming Student Interaction through Building Educational Chatbots in Engineering and Computing (Paper # 1029)

Argentina 09:00AM	Australia 10:00PM	Bolivia 08:00AM	Brazil 09:00AM	Canada 05:00AM
Chile 09:00AM	China 08:00PM	Colombia 07:00AM	Costa_Rica 06:00AM	Ecuador 07:00AM
Germany 01:00PM	Greece 02:00PM	Guatemala 06:00AM	Indonesia 07:00PM	Ireland 12:00PM
Israel 02:00PM	Mexico 06:00AM	Peru 07:00AM	Philippines 08:00PM	Portugal 12:00PM
Senegal 12:00PM	Spain 01:00PM	Singapore 08:00PM	Sweden 01:00PM	Trinidad_Tobago 08:00AM
Tunisia 01:00PM	United_Kingdom 12:00PM	USA-CDT 08:00AM	USA-PDT 05:00AM	USA-EDT 09:00AM
USA-MDT 06:00AM	USA-HST 02:00AM			

Educational chatbots offer a potential way to enhance student engagement and provide ongoing support throughout a course. This workshop is designed to empower educators with the skills to create educational chatbots tailored to classroom needs using the no-code platform Chatbase, alongside an introduction to OpenAI's API capabilities for non-programmers. Participants will explore the evolving capabilities of AI in creating chatbots that deliver local, course-specific context, such as assignment details, deadlines, and customized responses. The session emphasizes designing chatbot flows that support realistic educational interactions and integrate content specific to their courses. By the end of the workshop, educators will have a working prototype of a chatbot tailored to their specific class requirements, enhancing engagement in personalized learning. This hands-on experience offers an accessible path for educators to embrace AI-driven tools in education.

Authored by

Miguel Morales-Chan, Hector R. Amado-Salvatierra, Rocael Hernandez-Rizzardini, Byron Linares Román

Agenda:

The two-hour workshop will be structured into focused segments. First, participants will explore the fundamentals of educational chatbots and the Chatbase no-code platform, followed by a hands-on session to design interactive chatbot flows that align with specific learning objectives. The next phase will cover introducing prompt engineering to enhance chatbot responsiveness. Participants will also integrate external resources to enrich their chatbot\'s utility in real-world scenarios. In the final section, educators will learn how to evaluate and refine their chatbot designs using feedback and analytics, ensuring effectiveness and alignment with course needs. By the end of the session, attendees will have a functional prototype ready for classroom use and the foundational skills to expand their chatbot capabilities. The day concludes with a critical discussion on the Challenges of Implementing Chatbots in Teaching Processes, ensuring a well-rounded understanding of the subject matter.

WORKSHOP TIMETABLE:

10min Introduction to foundational concepts of Chatbots

20min Effective Prompt creation for Chatbots

30min Exploration of GEN AI tools: ChatBase

50min Hands-on Practice with tools

10min Challenges, ethical considerations and final discussion

Presented by



Education in the Age of Generative AI: Embracing Digital Transformation

SUNDAY, March 23, 2025

Miguel Morales-Chan

Hector R. Amado-Salvatierra

Rocael Hernandez-Rizzardini

Byron Linares Román

Guatemala 06:00AM

Guatemala 06:00AM

Guatemala 06:00AM

Guatemala 06:00AM

The workshop will run for 90 minutes and follow the planned agenda.

10:30AM - 11:00AM



HYBRID Intermission: A Moment for You

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Argentina 10:30AM	Australia 11:30PM	Bolivia 09:30AM	Brazil 10:30AM	Canada 06:30AM
Chile 10:30AM	China 09:30PM	Colombia 08:30AM	Costa_Rica 07:30AM	Ecuador 08:30AM
Germany 02:30PM	Greece 03:30PM	Guatemala 07:30AM	Indonesia 08:30PM	Ireland 01:30PM
Israel 03:30PM	Mexico 07:30AM	Peru 08:30AM	Philippines 09:30PM	Portugal 01:30PM
Senegal 01:30PM	Spain 02:30PM	Singapore 09:30PM	Sweden 02:30PM	Trinidad_Tobago 09:30AM
Tunisia 02:30PM	United_Kingdom 01:30PM	USA-CDT 09:30AM	USA-PDT 06:30AM	USA-EDT 10:30AM
USA-MDT 07:30AM	USA-HST 03:30AM			

Duration: 30 minutes. Join us on time!



SUNDAY, March 23, 2025

11:00AM - 12:30PM



ONLINE English Workshop #2

Chair: Maria Feldgen

Peace Engineering: A Workshop and IEEE Peace Engineering Handbook Invitation (Paper # 1068)

Argentina 11:00AM	Australia 24 Mar, 12:00AM	Bolivia 10:00AM	Brazil 11:00AM	Canada 07:00AM
Chile 11:00AM	China 10:00PM	Colombia 09:00AM	Costa_Rica 08:00AM	Ecuador 09:00AM
Germany 03:00PM	Greece 04:00PM	Guatemala 08:00AM	Indonesia 09:00PM	Ireland 02:00PM
Israel 04:00PM	Mexico 08:00AM	Peru 09:00AM	Philippines 10:00PM	Portugal 02:00PM
Senegal 02:00PM	Spain 03:00PM	Singapore 10:00PM	Sweden 03:00PM	Trinidad_Tobago 10:00AM
Tunisia 03:00PM	United_Kingdom 02:00PM	USA-CDT 10:00AM	USA-PDT 07:00AM	USA-EDT 11:00AM
USA-MDT 08:00AM	USA-HST 04:00AM			

The Peace Engineering Consortium (PEC) was created as an outcome of the First Global Peace Engineering Conference in November 2018. The PEC members have been continuously working in the body of knowledge of Peace Engineering and a partnership with the IEEE Education Society. To start the partnership, we propose the celebration of a virtual workshop in Peace Engineering, with an open invitation to the members to participate as authors in the Handbook of Modern Peace Engineering, collaboration with the IEEE Education Society.

Authored by

Ramiro Jordán, Donna Koechner, Manel Martínez-Ramón, Pablo Garcia, Joseph B. Hughes Hughes, Bruce Cahan, Rebecca Silveston, Mark Nelson, Venkat Bakthavatchaalam, Margarita Quihuis, Jeremy Bruggemann

Agenda:

Questions for the Participants

What follows are visioning questions we would like to address with the participating audience.

1) Provide a summary paragraph that explains the societal problem to be solved and the role for high-impact engineering research of the current designations.

2) What are the top three specific research goals to achieve long-term (10-, 20-, and 30-year time frames) to address this problem? Articulate concrete research goals that are inspirational and ambitious, yet not impossible.

3) Why is this the right time? Are there recent break- through or catalytic advances in adjacent domains of science/engineering that increase chances of success?

4) Which engineering disciplines will be necessary to achieve the research goals? Please be as specific as possible, e.g., instead of broad fields such as electrical or mechanical engineering, name subdisciplines within them. What other science or social science disciplines should be involved?

5) What are the anticipated technological and societal benefits? What difference will it make if the research area you are suggesting is funded? What is the impact on the field and on society?

6) Are you aware of current funding for research addressing this problem? Please share known funding sources.

7) Are you aware of other background information to support that your idea is an emerging research area with societal impact (from congressional committees, industry associations, vision/position /perspective papers, strategy/roadmap documents, etc. from the National Academies, engineering journals/conferences, professional societies, international agencies, etc.)? Please insert links to the relevant content.

8) Please enter other keywords or phrases used to describe this problem for research purposes.

9) Please recommend one or more subject matter experts to help lead the visioning workshop.

Presented by



Education in the Age of Generative AI: Embracing Digital Transformation

SUNDAY, March 23, 2025

Donna Koechner

USA-MDT 08:00AM Donna Koechner is the Program Manager for Peace Engineering - ECHO, a founding member of the Peace Engineering Consortium, and a research faculty member at the University of New Mexico. She also serves as the Program Management Director at SensorComm Technologies, Inc. Donna earned a B.S. in Electrical Engineering from Kansas State University and an M.S. in Electrical and Computer Engineering from UNM. She has over seventeen years of international experience in creating and leading technical teams while supporting entrepreneurial activities, working in system design, characterization, installation, software development, hardware integration, and quality assurance. She is passionate about the environment, conservation, human rights, and sustainable development. Additionally, she actively engages in community service and conservation initiatives.

Rebecca Silveston

Rebecca Silveston has worked in corporate R&D for 25 years, leading open innovation and product development in materials science for the consumer products industry. She has authored 30 patents and publications. Recently, she headed the United States National Science Foundation's ERVA initiative to identify long-term engineering research roadmaps on various topics, ranging from women's health to sustainable materials, to inform agency budgets. She holds a PhD in Physical Chemistry from Uppsala University, Sweden, and a Bachelor's in Chemical Engineering from Queen's University, Canada.

Ramiro Jordan

Dr. Ramiro Jordan is a scientist, innovator, educator, and entrepreneur. He is a faculty member in the Department of Electrical and Computer Engineering (ECE) at the University of New Mexico. He has served as the Undergraduate Chair for ECE and as the Associate Dean of Engineering for Global Initiatives. His research focuses on sustainability, Peace Engineering, smart grids, cognitive radio, multidimensional signal processing, and software development. In December 1990, he founded the Ibero-American Consortium for Science and Technology Education (ISTEC), a successful non-profit organization that promotes STEM education, research and development, and entrepreneurship in Latin America and the Iberian Peninsula. He was the past president of the International Federation of Engineering Education Societies (IFEES) from November 2018 to 2020. Additionally, he is a founding member of the Peace Engineering Consortium, established during the first global conference on Peace Engineering, WEEF-GEDC, held in November 2018 in Albuquerque, NM.

The workshop will run for 90 minutes and follow the planned agenda.

12:30PM - 2:30PM



HYBRID Intermission: Lunch time

Argentina 12:30PM	Australia 24 Mar, 01:30AM	Bolivia 11:30AM	Brazil 12:30PM	Canada 08:30AM
Chile 12:30PM	China 11:30PM	Colombia 10:30AM	Costa_Rica 09:30AM	Ecuador 10:30AM
Germany 04:30PM	Greece 05:30PM	Guatemala 09:30AM	Indonesia 10:30PM	Ireland 03:30PM
Israel 05:30PM	Mexico 09:30AM	Peru 10:30AM	Philippines 11:30PM	Portugal 03:30PM
Senegal 03:30PM	Spain 04:30PM	Singapore 11:30PM	Sweden 04:30PM	Trinidad_Tobago 11:30AM
Tunisia 04:30PM	United_Kingdom 03:30PM	USA-CDT 11:30AM	USA-PDT 08:30AM	USA-EDT 12:30PM
USA-MDT 09:30AM	USA-HST 05:30AM			

Duration: 120 minutes. Join us on time!

USA-EDT 11:00AM

USA-MDT 08:00AM



SUNDAY, March 23, 2025

2:30PM - 4:00PM



ONLINE Spanish Workshop #3

Chair: Ana Luna Workshop: Digital Transformation of Organizations Using Generative AI

(Paper # 1006)

Argentina 02:30PM	Australia 24 Mar, 03:30AM	Bolivia 01:30PM	Brazil 02:30PM	Canada 10:30AM
Chile 02:30PM	China 24 Mar, 01:30AM	Colombia 12:30PM	Costa_Rica 11:30AM	Ecuador 12:30PM
Germany 06:30PM	Greece 07:30PM	Guatemala 11:30AM	Indonesia 24 Mar, 12:30AM	Ireland 05:30PM
Israel 07:30PM	Mexico 11:30AM	Peru 12:30PM	Philippines 24 Mar, 01:30AM	Portugal 05:30PM
Senegal 05:30PM	Spain 06:30PM	Singapore 24 Mar, 01:30AM	Sweden 06:30PM	Trinidad_Tobago 01:30PM
Tunisia 06:30PM	United_Kingdom 05:30PM	USA-CDT 01:30PM	USA-PDT 10:30AM	USA-EDT 02:30PM
USA-MDT 11:30AM	USA-HST 07:30AM			

This workshop explores the integration of generative AI as a strategic tool for driving digital transformation across various organizational sectors. Generative AI, known for its capacity to create new, original content from extensive datasets, is transforming key business areas such as marketing, product design, process optimization, and customer service. This workshop focuses on the main enablers required for adopting generative AI, including technological infrastructure and data management platforms, as well as the high-impact areas where this technology can significantly enhance organizational performance. Through case studies and practical discussions, participants will gain actionable insights into implementing generative AI effectively within their organizations.

Authored by

Rafael Ricardo Rentería Ramos, Ana Luna, Mario Chong, Francisco Jose Mercado Rivera, Jhorman Villanueva Vivas, Juan Manuel Nuñez, Karla Nathalia Triana Ortiz

Agenda:

This workshop program was developed and led by Instituto Técnico Profesional of Universidad Nacional Abierta y a Distancia (UNAD) from Colombia and the Universidad del Pacifico from Peru. This workshop is intended for educators, students, Researchers, and actors of organizations in the productive sector interested in IoT applications.

Workshop Timetable:

- A. First block Presentation 20 minutes
- Welcome
- · Speakers and participants' presentation
- Workshop agenda
- B. Second block Introduction and Contextualization of AI– 40 minutes
- Basics of AI
- Differences between traditional AI and generative AI.
- Examples of generative AI tools and applications
- C. Third Block Main Enablers of Digital Transformation with AI- 40 minutes
- Necessary technological infrastructure (e.g., cloud computing, big data).
- Organizational culture and AI training.
- · Case studies: organizations that have achieved significant transformations in key impact areas.

Presented by



SUNDAY, March 23, 2025

Rafael Ricardo Renteria Ramos

RAFAEL RICARDO RENTERIA RAMOS, Industrial Engineer, Doctor in Economic Sciences, specializing in demography and population dynamics modeling, full-time professor at the Universidad Nacional Abierta de Colombia, and researcher in related topics in Data Sciences, Machine Learning, Bioinformatics, and Biostatistics. Postdoctoral in network analysis and statistical methods applied to health. Coordinator of the Scient Metrics Observatory of UNAD. He has developed several models from the complexity sciences for the technology watch processes in different organizations.

Ana Eugenia Luna

ANA EUGENIA LUNA, Associate Dean of Business Engineering, full-time professor and researcher at Universidad del Pacífico, Academic Department of Engineering, Lima, Peru. She holds a Ph.D. in Physical Sciences from the University of Buenos Aires (UBA-Argentina). In her research field, she worked in the Solid Lasers Division at DEILAP, CONICET. Within the area of Photonics, she was dedicated to modeling the structural color generation in one of the beetle species endemics to southern Argentina and Chile, using genetic algorithms. She also worked as a professor at the University of Buenos Aires, teaching several courses in Higher Laboratories in the Department of Physics of the Faculty of Exact and Natural Sciences. She is an adhering researcher at the Universidad Nacional Mavor de San Marcos (Lima-Peru).

Mario Chong

MARIO CHONG, Associate Dean of Innovation and Design Engineering Full-time professor and researcher at Universidad del Pacífico. He holds a Ph.D. in Business Management from Universidad Nacional Mayor de San Marcos, a Master's in Industrial Engineering, a Master's in Systems Engineering, and an Industrial Engineer Degree from Universidad de Lima. He has a certification in Supply Chain Management from the Massachusetts Institute of Technology (MIT). He has experience developing research projects related to business, such as business strategy, supply chain, operations, global business, agribusiness, and rural associativity.

Francisco Jose Mercado

FRANCISCO JOSE MERCADO, Mechcatronic engineer and Doctor in engineering from the Universidad Autónoma de Occidente, part-time professor at the Universidad Nacional Abierta y a Distancia and Universidad Autónoma de Occidente, researcher in product development, Additive Manufacturing, and Artificial intelligence. With five years of experience as a professor of several courses for Engineering programs.

Jhorman Villanueva Vivas

Colombia 12:30PM JHORMAN VILLANUEVA VIVAS, Electronic and Telecommunications Engineer, Master's in Engineering with a focus on computer science from the Universidad Autónoma de Occidente, certified AWS Solutions Architect. With four years of experience as a full-time professor and researcher at the National Open and Distance University, specializing in topics related to the Internet of Things and cloud computing.

Juan Manuel Nuñez

JUAN MANUEL NUÑEZ, Electronic and Telecommunications Engineer, Master's degree in Engineering with an emphasis in mechatronics from the Universidad Autónoma de Occidente. Ph.D. candidate in Computer Engineering at the University of Salamanca. Professor and researcher at the University of Salamanca, Universidad Abierta y a Distancia UNAD, and Universidad Autónoma de Occidente. Areas of interest: Hardware development, precision agriculture, IoT (Internet of Things).

Peru 12:30PM

Peru 12:30PM

Colombia 12:30PM

Colombia 12:30PM

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Colombia 12:30PM



SUNDAY, March 23, 2025

Karla Nathalia Triana Ortiz

Colombia 12:30PM KARLA NATHALIA TRIANA ORTIZ, Full-time professor and researcher at Universidad Nacional Abierta de Colombia. She holds a Master's, Specialization, and International Business and Management degree with five years of experience as a professor of several courses for the Industrial Engineering program in innovation, entrepreneurship, and business administration topics.

The workshop will run for 90 minutes and follow the planned agenda.

4:00AM - 4:30PM

HYBRID Intermission: A Moment for You



Duration: 30 minutes. Join us on time!





SUNDAY, March 23, 2025

4:30PM - 6:00PM



ONLINE Spanish Workshop #4

Chair: Ana Luna

Workshop: Classroom digital transformation: chatbots as Virtual Tutors to strengthen logical and algorithmic thinking in Engineering students (Paper # 1013)

Argentina 04:30PM	Australia 24 Mar, 05:30AM	Bolivia 03:30PM	Brazil 04:30PM	Canada 12:30PM
Chile 04:30PM	China 24 Mar, 03:30AM	Colombia 02:30PM	Costa_Rica 01:30PM	Ecuador 02:30PM
Germany 08:30PM	Greece 09:30PM	Guatemala 01:30PM	Indonesia 24 Mar, 02:30AM	Ireland 07:30PM
Israel 09:30PM	Mexico 01:30PM	Peru 02:30PM	Philippines 24 Mar, 03:30AM	Portugal 07:30PM
Senegal 07:30PM	Spain 08:30PM	Singapore 24 Mar, 03:30AM	Sweden 08:30PM	Trinidad_Tobago 03:30PM
Tunisia 08:30PM	United_Kingdom 07:30PM	USA-CDT 03:30PM	USA-PDT 12:30PM	USA-EDT 04:30PM
USA-MDT 01:30PM	USA-HST 09:30AM			

This workshop presents a pedagogical innovation based on implementing a "Julius" chatbot to support engineering students in their basic programming courses at Unicomfacauca. Using a seven-step process, the applied methodology guides students in identifying algorithmic elements, such as input and output variables, conditions, and calculations. The Julius chatbot interacts structured, providing immediate and personalized feedback, which contributes to developing competencies in logical thinking and problem-solving. Additionally, the workshop explores the impact of this technology across four dimensions, cognitive, pedagogical, social, and emotional, through qualitative and quantitative analysis. Preliminary results indicate that using educational chatbots can facilitate the acquisition of algorithmic skills and improve the learning experience for students without prior programming training

Authored by

Julio Ricardo Martinez-Montezuma, Susana Eugenia Maya-Duran, María Alejandra Caicedo-Bucheli, Ana Luna, Mario Chong

Agenda:

The workshop will be held in practical sessions where participants develop a chatbot adapted to their teaching areas. To this end, a methodology will be implemented that covers the following phases:

- Problem analysis and understanding identify inputs, transformation processes, and outputs.
- Using "Julius": development through the seven steps, from problem to transcribing the algorithm into PSeInt.
- Chatbot development: Practical implementation using generative AI tools and HuggingChat.

• Feedback: Chatbot continuous evaluation andits impact on students through interactive activities and group discussions.

Workshop Timetable:

A. Block 1 - Presentation (20 minutes)

- Workshop introduction
- Objectives and participants presentation
- B. Block 2 Contextualization (20 minutes)
- Use of AI in education fundamentals
- · Classroom chatbot applications and success stories
- C. Block 3 Chatbot "Julius" Hands-on (40 minutes)
- · Using virtual assistant



Education in the Age of Generative AI: Embracing Digital Transformation

SUNDAY, March 23, 2025

· Implementing a chatbot in the classroom.

Presented by

Julio Ricardo Martínez-Montezuma

JULIO RICARDO MARTÍNEZ-MONTEZUMA, Associate Dean of Technologies Model Coordinator, Professor and Educational at Unicomfacauca. He holds a Master's in E- Learning Systems and Social Networks from La Rioja University and is a Systems engineer. Former External Officer at Finance Secretary, Colombia; Systems engineering career director, Faculty of Engineering Dean, Unicomfacauca.

Susana Eugenia Maya-Duran

Colombia 02:30PM SUSANA EUGENIA MAYA-DURAN, Associate Dean of Curriculum and Pedagogy Coordinator at Unicomfacauca. She holds a Master's in human and organizational development. Educational Management Specialist. Specialist in Human Talent management and Psychology. Former Psychology program director, Faculty of Social and Human Sciences Dean, and General academic coordinator at Unicomfacauca.

María Alejandra Caicedo Bucheli

MARÍA ALEJANDRA CAICEDO BUCHELI, Associate Dean of Transversal Socio-humanistic Coordinator. Former research professorand Psychology Research Unit Coordinator at Unicomfacauca. He holds a Master's in advanced studies in Humanitarian Action at Université de Genève (CERAH and IHEID). Specializations in Research Skills and Methods at Maastricht School of Management, Human Rights and International Humanitarian Law at Externado University of Colombia, and Medical and Health Psychology at El Bosque University.

Ana Eugenia Luna

ANA EUGENIA LUNA, Associate Dean of Business Engineering, full- time professor and researcher at Universidad del Pacífico, Academic Department of Engineering, Lima, Peru. She holds a Ph.D. in Physical Sciences from the University of Buenos Aires (UBA-Argentina). In her research field, she worked in the Solid Lasers Division at DEILAP, CONICET. Within the area of Photonics, she was dedicated to modeling the structural color generation in one of the beetle species endemics in southern Argentina and Chile, using genetic algorithms. She also worked as a professor at the University of Buenos Aires, teaching several courses in Higher Laboratories in the Department of Physics of the Faculty of Exact and Natural Sciences. She is an adhering researcher at the Universidad Nacional Mayor de San Marcos (Lima-Peru).

Mario Chong

MARIO CHONG, Associate Dean of Innovation and Design Engineering Full-time professor and researcher at Universidad del Pacífico. He holds a Ph.D. in Business Management from Universidad Nacional Mayor de San Marcos, a master's in industrial engineering, a Master's in Systems Engineering, and an Industrial Engineer Degree from Universidad de Lima. He has a certification in Supply Chain Management from the Massachusetts Institute of Technology (MIT). He has experience developing research projects related to business, such as business strategy, supply chain, operations, global business, agribusiness, and rural associativity.

The workshop will run for 90 minutes and follow the planned agenda.

Colombia 02:30PM

Colombia 02:30PM

Peru 02:30PM

Peru 02:30PM