

Andrea Ramírez-Salgado, PhD

AI & Engineering Education Scholar | Program Lead, Convergent Engineering Education Initiatives

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PROFESSIONAL PROFILE

AI and engineering education scholar and institutional leader with more than 15 years of experience spanning computer science, curriculum design, graduate AI education, faculty development, and community-engaged learning. As Program Lead for Convergent Engineering Education Initiatives at the University of Florida, I build pathways that connect emerging technologies with engineering formation across disciplines and learner levels. My current work translates complex AI systems into rigorous, hands-on learning and is expanding toward a focused research agenda on how engineers should reason under moral and technical uncertainty about advanced AI systems, including questions of potential sentience, welfare, and moral status.

CURRENT APPOINTMENTS AND INSTITUTIONAL PLATFORM

2026–Present	Program Lead, Convergent Engineering Education Initiatives University of Florida Department-level leadership role coordinating strategy for AI and other convergent technologies across teaching, research, faculty development, partnerships, curriculum, and external engagement.
2024–Present	Instructional Assistant Professor Department of Engineering Education, University of Florida Faculty member in graduate AI and applied data science pathways, with responsibility for AI systems, machine learning, deep learning, curriculum development, and engineering education scholarship.
2024–Present	Faculty Core Member UF AI ² Center, AI Learning Academy; Warren B. Nelms Institute for the Connected World
2025–Present	Affiliated Faculty UF School of Teaching and Learning; Institute for Advanced Learning Technologies

SELECTED DISTINCTIONS

2025 UF AI Educator of the Year	2025 IEEE Frontiers in Education New Faculty Fellow
2025 UF AI ² Faculty Fellow	2023 Certificate of Outstanding Merit, UF College of Education

EDUCATION

2024	PhD, Curriculum and Instruction – Educational Technology University of Florida Dissertation: A Phenomenological Exploration of the Career Intentionality of Women in Computer Engineering.
2011	MA, Education and Information and Communications Technologies Open University of Catalonia, Barcelona, Spain
2008	BS, Computer Science Engineering Universidad Icesi, Cali, Colombia Magna Cum Laude; Dean's Honor List in all semesters; merit scholarship recipient.

CURRENT AND EMERGING AREAS OF FOCUS

AI and engineering education; engineering formation for advanced and agentic AI; digital minds, moral uncertainty, AI welfare, and moral status; AI literacy and governance; edge AI, AIoT, microelectronics, and sensor-based learning; engineering identity, equitable participation, and curriculum design.

LEADERSHIP, TEACHING, AND CURRICULUM TRANSLATION

2026–Present

Convergent Engineering Education Leadership | University of Florida

- Builds a visible ecosystem connecting AI, data, computing, microelectronics, edge intelligence, and other convergent technologies across students, faculty, community partners, and institutional strategy.
- Creates pathways for translating emerging scholarship into curriculum, faculty development, interdisciplinary partnerships, credentials, and externally funded initiatives.
- Represents engineering education in cross-unit conversations about AI education, workforce preparation, governance, and future-facing technical competencies.

2024–Present

Graduate AI and Data Science Education | University of Florida

- Instructor and course developer for Artificial Intelligence Systems, Applied Deep Learning, Applied Machine Learning,, Applied Machine Learning II, and Mathematical Foundations for Data Science II
- Designs project-based learning experiences in which students build, evaluate, and reason about intelligent systems, including models that sense, decide, and act in physical and social contexts.
- Contributes to curriculum and program discussions for the MS in AI Systems and MS in Applied Data Science.

2024–Present

Faculty Development in AI | UF AI² Center, AI Learning Academy

- Develops and delivers the AI Fundamentals module for a higher-education faculty microcredential, in online and in-person formats.
- Supports faculty in moving beyond tool use toward deeper understanding of AI systems, limitations, instructional implications, and responsible integration.

2011–2018

Curriculum Design and Accreditation Leadership | Universidad Icesi

- Led curriculum and instructional-design initiatives across engineering, industrial design, interactive media design, business, and online graduate education.
- Guided redesign of College of Engineering courses using the CDIO framework in preparation for ABET accreditation; resulting work was disseminated at the International CDIO Conference.

SELECTED COURSES AND EDUCATIONAL CONTEXTS

Period	Course / Program	Fellowship-Relevant Contribution
Spring 2025–2026	EGN 6217: Applied Deep Learning	Neural-network design, model evaluation, and applied reasoning about capabilities and limitations.
Spring 2026	EGN 6446: Mathematical Foundations for Data Science II	Advanced mathematical and statistical reasoning for building intelligent systems
Fall 2024–2026	EGN 6216: Artificial Intelligence Systems	Project-based design and evaluation of intelligent systems; systems thinking, deployment, and responsible decision-making.
Spring 2025	EEE 5776: Applied Machine Learning	Applied model selection, evaluation, interpretation, and responsible use.

Fall 2025	EEE 6778: Applied Machine Learning II	Advanced model development within the MS in Applied Data Science pathway.
2024–Present	AI Fundamentals Faculty Microcredential	Faculty development that connects AI concepts, educational use, limitations, and responsible integration.

SELECTED FUNDED RESEARCH AND STRATEGIC PARTNERSHIPS

2024–Present	Co-Principal Investigator, NSF DRK–12 Award 2405373 AHA! AI Hardware Adventures for High Schoolers (\$1,487,350) • Interdisciplinary project integrating artificial intelligence, edge computing, microelectronics, and community-centered engineering design for educators and young learners. • Contributes to curriculum development, teacher professional development, youth learning experiences, research, and dissemination across formal and informal learning settings. • Builds capacity for learners to examine how intelligent systems collect information, make decisions, interact with physical environments, and affect communities.
2022–2024	Project Coordinator, NSF IUSE Peek Inside the Box: Gamified Learning of Computing Hardware Fundamentals Coordinated an awarded \$400,000 project developing hands-on and game-based pathways for learning computing hardware fundamentals.
2021–2022	Graduate Research Assistant, NSF CSforAll Time4CS-for-All Research–Practice Partnership Contributed to an awarded \$300,000 partnership focused on inclusive computer science participation and teacher preparation.
2024	Co-Principal Investigator, 100K Strong in the Americas Innovation Fund SEEDS of Chili Value Chain: AI for AI Awarded and completed international project connecting AI, agriculture, education, and community problem solving.

COMMUNITY AND INFORMAL AI LEARNING

- **Cade Museum for Creativity and Invention:** Collaborates on informal AI learning experiences that make intelligent systems tangible for youth and broader public audiences through hands-on, socially situated activities.
- **K–12 and Community Engagement:** Designs and facilitates experiences in edge AI, computer hardware, computational thinking, and engineering for high-school students, middle-school learners, elementary students, teachers, and families.
- **Cross-Sector Partnerships:** Works with engineering faculty, educators, museums, school partners, and community organizations to translate emerging technical ideas into accessible and consequential learning environments.

SELECTED INVITED TALKS AND PUBLIC SCHOLARSHIP

2026	Order of the Engineer Ceremony College of Engineering, University of Florida, Invited Reader
2026	Community Situated Edge Intelligence Systems for Human-Centered Decision Making Florida Semiconductor Institute, University of Florida, Invited Panelist
2026	Expanding Conceptions of AI Using Edge Intelligence College of Education, AI Days, University of Florida, Invited Panelist
2025	Hands-on Pedagogies for Increasing Participation in Intelligent Microelectronics Engineering Education Seminar, University of Florida

- 2025** **AI in the College Classroom** | AI² Summit, Orlando, Florida
Invited panelist.
- 2025** **Beyond Generative AI: Leveraging Edge Intelligence and Computer Vision to Engage the Public in Scientific Discovery** | AI² Summit, Orlando, Florida
Invited panelist.
- 2024** **AI in Small Bytes** | Center for Teaching Excellence, University of Florida
Invited speaker.
- 2023** **Workforce Development for AI/ML Hardware** | Southeastern Consortium for Assured Leading-Edge Semiconductors
Invited panelist.

SELECTED EVIDENCE OF RESEARCH TRANSLATION

- Develops competency models, conceptual frameworks, curriculum probes, and hands-on learning environments that connect technical content with learner reasoning, identity, and social context.
- Works across graduate education, undergraduate engineering, K–12 teacher development, youth programs, and informal learning, enabling scholarship to move between theory, practice, and institutional implementation.
- Brings technical preparation in computer science and AI together with doctoral expertise in educational technology, qualitative inquiry, curriculum, and learning design.

SELECTED PEER-REVIEWED JOURNAL PUBLICATIONS

- 2025** Ramírez-Salgado, A., Wusylko, C., Weisberg, L., Delgado, J., & Israel, M. Preparing elementary preservice teachers to integrate computational thinking in the curriculum. *ACM Transactions on Computing Education* (in press). [DOI](#)
- 2024** Rahimi, S., Almond, R., Ramírez-Salgado, A., Wusylko, C., Weisberg, L., Song, Y., et al. Competency model development: The backbone of successful stealth assessments. *Journal of Computer Assisted Learning*. [DOI](#)
- 2023** Strickland, C., Ramírez-Salgado, A., Weisberg, L., Chandler, L., Di Domenico, J., Lehman, E. M., & Israel, M. Designing a framework for integrated elementary computer science instruction through culturally responsive pedagogy and Universal Design for Learning. *Journal of Computer Science Integration*, 6(1), 1–16. [DOI](#)
- 2021** Neumann, K. L., Alvarado-Albertorio, F., & Ramírez-Salgado, A. Aligning with practice: Examining the effects of a practice-based educational technology course on preservice teachers' potential to teach with technology. *TechTrends*, 65(6), 1027–1041. [Article](#)
- 2020** Neumann, K. L., Alvarado-Albertorio, F., & Ramírez-Salgado, A. Online approaches for implementing digital escape rooms with preservice teachers. *Journal of Technology and Teacher Education*, 28(2), 415–424. [Article](#)

SELECTED PEER-REVIEWED CONFERENCE SCHOLARSHIP

- 2026** Ramirez-Salgado, A., Antonenko, P., Eutsler, L., Bhunia, S., & Hoque, T. (2026, June). NSF DRK 12: Cultivating engineering identities through altruistic applications of embedded intelligence and microelectronics. Available soon in Proceedings of the 2026 American Society for Engineering Education Annual Conference & Exposition, Charlotte, NC, United States.
- 2026** Ramirez-Salgado, A., Eutsler, L., Sharma, A., Hwang, W., Ambarwati, Y. E., Terzian, T., Barnes, M., Dominguez, N., Donihue, D., Bhunia, S., Hoque, T., & Antonenko, P. (2026, June). Fostering teenagers' understanding of community centered edge AI systems. Available soon in Proceedings of the 2026 American Society for Engineering Education Annual Conference & Exposition, Charlotte, NC, United States.
- 2026** Perez-Medina, C., Ramirez-Salgado, A., Antonenko, P., & Cisternas-Garcia, L. (2026, June). Ethics in AI engineering education: A systematic review of innovative curricula and ethics frameworks. Available soon in Proceedings of the 2026 American Society for Engineering Education Annual Conference & Exposition, Charlotte, NC, United States.
- 2025** Ramírez-Salgado, A., & Antonenko, P. Work in Progress: Cultivating semiconductors and microelectronics interest in high school students using hands-on learning. *IEEE Frontiers in Education Conference*. [

- 2025** Ramírez-Salgado, A., Antonenko, P., Israel, M., Dawson, K., Bhunia, S., Hwang, W., & Ambarwati, Y. Voices of Hope: A phenomenological study on women's self-efficacy in computer engineering. ASEE Annual Conference & Exposition. [Paper](#)
- 2025** Ramírez-Salgado, A., Hossain, T., Hoque, T., Bhunia, S., Koroly, M., Kalavakonda, R., Hwang, W., Ambarwati, Y., & Antonenko, P. Empowering future engineers: An inclusive curriculum for AIoT and intelligent embedded systems. ASEE Annual Conference & Exposition. [Paper](#)
- 2025** Hwang, W., Ramírez-Salgado, A., Ambarwati, Y., Bhunia, S., & Antonenko, P. Empowering first-year engineering students for career choices through hands-on AI hardware experiences. ASEE Annual Conference & Exposition. [Paper](#)
- 2024** Ramírez-Salgado, A., & Antonenko, P. Exploring outcome expectations in artificial intelligence and Internet of Things in first-year engineering students. ASEE Annual Conference & Exposition. [Paper](#)
- 2024** Ramírez-Salgado, A., Xu, Z., Wusylko, C., Abramowitz, B., & Antonenko, P. Understanding engineering identity in K–12 education: A systematic literature review. American Educational Research Association Annual Meeting.
- 2023** Ramírez-Salgado, A., & Antonenko, P. Exploring AI hardware applications in experiential learning environments. CIRCLS Convening: Shaping AI and Emerging Technologies to Empower Learning Communities.
- 2023** Ramírez-Salgado, A., & Wright, E. Measuring systems thinking using stealth assessment. ASEE Annual Conference & Exposition. [Paper](#)

SELECTED ACADEMIC SERVICE AND PROFESSIONAL LEADERSHIP

Present	NSF Panelist National Science Foundation
2025–Present	Curriculum Committee Member MS in AI Systems and MS in Applied Data Science, University of Florida
2024–Present	Educational Excellence Metrics Committee Member Department of Engineering Education, University of Florida
2024	Award Chair Annual Internet of Things Conference, Warren B. Nelms Institute for the Connected World
2022–2023	Planning Committee Member and Facilitator University of Florida CSEdWeek Designed and facilitated computer science education events and activities.

SELECTED PEER-REVIEW SERVICE

- American Educational Research Association conference submissions
- American Society for Engineering Education, Women in Engineering Division
- Journal of Computer Science Integration
- School Science and Mathematics
- Research on Equitable and Sustained Participation in Engineering, Computing, and Technology conference
- National Association for Research in Science Teaching conference
- Journal of Digital Learning in Teacher Education

TECHNICAL AND METHODOLOGICAL COMPETENCIES

Programming	Python, Java, C#, C++
AI / ML	TensorFlow, PyTorch, Keras, MATLAB, Edge Impulse, ThingSpeak
Research	Qualitative inquiry, phenomenology, systematic review, competency modeling, curriculum and learning-design research
Design & Practice	Curriculum development, active and project-based learning, faculty development, community-engaged and informal learning

LANGUAGES

Spanish — Native proficiency • **English** — Full professional proficiency • **Italian** — Professional working proficiency

SELECTED PROFESSIONAL DEVELOPMENT

- Teaching Excellence Academy, Center for Teaching Excellence, University of Florida, 2026
- Early Career Symposium, Association for Educational Communications and Technology (competitive selection), 2023.
- Women Lead Certificate, University of Florida, 2023.
- Inclusive Mentoring Academy in Graduate Education, University of Florida, 2023.
- Collaborative Online International Learning Certificate, University of Florida, 2023.
- CITI training in human-subjects, education, online, and international research compliance.

SELECTED PROFESSIONAL AFFILIATIONS

American Society for Engineering Education; Association for Educational Communications and Technology; National Association for Research in Science Teaching; Society of Women Engineers; Phi Kappa Phi Honor Society.

Complete academic CV and references available upon request.