

Eduardo Sánchez Jiménez, M.Sc.

✉ saje042197@gmail.com

Facebook

LinkedIn

ResearchGate

+52 993-459-8058



PROFESSIONAL SUMMARY

He is a Doctoral Candidate in Computer Science at the National Center for Research and Technological Development of the National Technological Institute of Mexico (TecNM-CENIDET), where he also completed his Master's degree in Computer Science. He holds a Bachelor's degree in Computer Science from the Juárez Autonomous University of Tabasco (UJAT) and is a member of the Research and Innovation Network in Artificial Intelligence and Data Science of TecNM. He was distinguished with the Emerging Leaders in the Americas Program (ELAP) award from the Government of Canada, which enabled him to carry out a seven-month research stay in 2025 at the Faculty of Computer Science of Dalhousie University in Nova Scotia, Canada. He received first place in the José Negrete Award for the Best Master's Thesis in Artificial Intelligence 2025, granted by the Mexican Society of Artificial Intelligence (SMIA). He has published scientific articles in indexed journals and at national and international conferences, and has participated in technology projects with social impact, primarily in the areas of health and education. His doctoral research focuses on the design of computational models to address the class imbalance problem in medical image datasets. His research interests include data science, machine learning, deep learning, computer vision and image processing, and human-computer interaction.

EDUCATION

- 2024 – Present **Ph.D. in Computer Science**, specialization in Intelligent Computing and Data Science; National Center for Research and Technological Development (CENIDET), Cuernavaca, Morelos, Mexico. Dissertation title: *Data Augmentation Approach to Balancing Class Distribution in Medical Image Datasets*.
- 2022 – 2024 **M.Sc. in Computer Science**, specialization in Intelligent Computing and Data Science; National Center for Research and Technological Development (CENIDET), Cuernavaca, Morelos, Mexico. Thesis title: *Hyperparameter Optimization in Machine Learning Models: Application to Cardiovascular Disease Prediction*.
- 2016 – 2020 **B.Sc. in Computer Science**, specialization in Databases. Juárez Autonomous University of Tabasco (UJAT), Academic Division of Basic Sciences (DACB), Tabasco, Mexico.

RESEARCH VISITS

- Jan – Jul 2025 **Project:** *Evaluation of the handwriting speed of young adults with a traditional pen and the PenSando device*, Dalhousie University, Faculty of Computer Science, Halifax, Nova Scotia, Canada.

TEACHING EXPERIENCE

- 2024 – Present **Professor:** Center for Research and Innovation in Information and Communication Technologies, INFOTEC.
Courses Taught:
Programming Fundamentals.

TEACHING EXPERIENCE (continúa)

- 2024 – 2025 Programming Languages.
Software Engineering.
Data Management.
Software Architecture.
Networking I.
Graduate Lecturer (Master's level): *Global Open Campus University.*
Courses Taught:
Decision Support Systems.
Knowledge Extraction and Representation.
- Jan – Apr 2024 **Adjunct Professor:** Tecnológico de Monterrey (ITESM), Cuernavaca Campus.
Courses Taught:
Digital Transformation for Civil Society Organizations.
Advanced Computer Science Application Development.

PROFESSIONAL EXPERIENCE

- 2018 – 2024 Developer, consultant and data analyst, *Datametrika Strategic Consulting of the Southeast, S. A.*
de C. V.

AWARDS AND HONORS

- 2025 First Place, *José Negrete* Award for the Best Master's Thesis in Artificial Intelligence (2025), granted by the Mexican Society of Artificial Intelligence (SMIA).
Emerging Leaders in the Americas Program (ELAP) award, granted by *EduCanada, Global Affairs Canada.*
- 2024 Honorable Mention for M.Sc. thesis, granted by the *National Technological Institute of Mexico (TecNM), CENIDET Campus.*
- 2020 *Manuel Sánchez Mármol* Student Academic Excellence Award, granted by the *Juárez Autonomous University of Tabasco (UJAT).*

RESEARCH PROJECTS

- 2025 Project Lead, *Evaluation of the handwriting speed of young adults with a traditional pen and the Pen-Sando device.*
- 2024 Project Lead, Development of machine learning models for cardiovascular disease prediction.
Research internship co-advisor, Development of predictive models to identify university student dropout.
- 2023 Project Supervisor, Web System: Incident Management for the Human Resources Department.

SCHOLARSHIPS AND FELLOWSHIPS

- 2025 Complementary Scholarship for Academic Research Stay Abroad. Granted by the *Ministry of Science, Humanities, Technology, and Innovation (SECITHI Mexico).*
Emerging Leaders in the Americas Program (ELAP) Scholarship. Granted by *EduCanada, Global Affairs Canada, Canada.*

SCHOLARSHIPS AND FELLOWSHIPS (continúa)

- 2024–2028 National Doctoral Scholarship. Granted by the *Ministry of Science, Humanities, Technology, and Innovation* (SECITHI Mexico).
- 2024 Complementary Support for Indigenous Scholars for the purchase of computer equipment. Granted by the *National Council of Humanities, Sciences, and Technologies* (CONACyT Mexico).
- 2022 – 2024 National Master's Scholarship. Granted by the *National Council of Humanities, Sciences, and Technologies* (CONACyT Mexico).

GUEST LECTURES AND TALKS

- 2025 *Evaluation of the Handwriting Speed Using Time Series Numerical Integration Approach*. Faculty of Computer Science, Dalhousie University.
- Artificial Intelligence in Scientific Education: Tool, Dependency, or Ethical Complement?*. 10th Cultural Week, Academic Division of Basic Sciences, UJAT Tabasco, Mexico.
- 2022 *Hyperparameter Optimization in Machine Learning Models*. John Von Neumann Seminar, Academic Division of Basic Sciences, UJAT Tabasco, Mexico.

COURSES, TUTORIALS, AND WORKSHOPS DELIVERED

- 2026 From Word to LaTeX: Transform Your Scientific Writing. National Technological Institute of Mexico, National Center for Research and Technological Development (CENIDET).
- 2025 *Pattern Recognition: AI Algorithms and Applications*. National Technological Institute of Mexico (TecNM), Iztapalapa III Campus, Mexico.
- Entering the World of Machine Learning: From Basic Implementation to Hyperparameter Tuning*. National Technological Institute of Mexico (TecNM), Gustavo A. Madero Campus, Mexico.
- 2024 *Machine Learning Model Tuning*. National Computing Meeting, EUREKA ENC 2024.
- Introduction to Python, Global Open Campus University*, Mexico.

CERTIFICATIONS, BOOTCAMPS, COURSES

- 2026 Copilot: Master AI in Microsoft 365. Santander Open Academy.
- Induction to Online Learning Facilitation. *Open and Distance University of Mexico*.
- Introduction to Artificial Intelligence Engineering. *Iberoamerican Technology Foundation*.
- 2025 *Llama Ecosystem for AI Development*. Center for Research and Innovation in Information and Communication Technologies, INFOTEC, Mexico.
- Macro-Training in Artificial Intelligence (MeIA 2025)*. DGTIC–UNAM, Mexico.
- Course on Research Ethics based on the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (TCPS 2: CORE 2022). Tri-Council Policy Statement, Canada.
- Introduction to Artificial Intelligence with MATLAB*. 1st International Congress on Artificial Intelligence: Challenges and Opportunities, UNAM, Mexico.
- 2024 *Foundations of the TEC21 Educational Model*. Tecnológico de Monterrey, Mexico.
- Get to Know ChatGPT*. Tecnológico de Monterrey, Mexico.
- Competency Assessment in TEC21*. Tecnológico de Monterrey, Mexico.
- Microteaching Awareness Training*. Tecnológico de Monterrey, Mexico.
- 2023 *Evaluation of State Budget Programs Financed with Funds from Budget Chapter 33*. Datametrika Consultoría S.A. de C.V., Mexico.

CERTIFICATIONS, BOOTCAMPS, COURSES (continúa)

- Applying Psychological Research Methods to Video Game Design*. International Congress on Software Process Improvement (CIMPS 2023), Mexico.
- Evaluating the Usability, Utility, and Emotional Impact of User Interfaces*. International Congress on Software Process Improvement (CIMPS 2023), Mexico.
- Introduction to the World of Arduino*. TecNM CENIDET, Mexico.
- Statistical Methods and Data Analytics*. Datametrika Consultoría S.A. de C.V., Mexico.
- Machine Learning with WEKA*. TecNM CENIDET, Mexico.
- 2022 *Literature Search Review and Thesis Writing*. TecNM CENIDET, Mexico.
- Formalizing Solutions to Computational Problems*. TecNM CENIDET, Mexico.
- 2021 *Data Science with R*. Datametrika Consultoría S.A. de C.V, Mexico.
- Applied Statistics with SPSS*. Datametrika Consultoría S.A. de C.V, Mexico.
- 2020 *Database Architecture and Administration with SQL*. SciData, Mexico.

CONFERENCES, SCHOOLS, AND WORKSHOPS ATTENDED

- 2025 *17th International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI 2025)*, Florence, Italy.
- 24th Mexican International Conference on Artificial Intelligence (MICAI 2025)*, Guanajuato, Mexico.
- International Conference on Applied Robotic and Intelligence Systems (ICARIS)*, Puebla, Mexico.
- XIII National Seminar on Learning and Computational Intelligence (SNAIC 2025)*, Mexico City, Mexico.
- 14th International Conference on Software Process Improvement (CIMPS 2025)*, Lima, Peru.
- 2024 *23rd Mexican International Conference on Artificial Intelligence (MICAI 2024)*, Puebla, Mexico.
- International Congress on Technology and Applied Sciences (CITCA)*, Cuernavaca, Morelos, Mexico.
- Mexican International Conference on Computer Science (ENC)*, Ciudad Madero, Tamaulipas, Mexico.
- Evolutionary Computing School (ECE 2024)*, Guanajuato, Mexico.
- 2023 *22nd Mexican International Conference on Artificial Intelligence (MICAI 2023)*, Mérida, Mexico.
- Cognitive Computing and Advances in Intelligent Systems*, Mexico City, Mexico.
- Mexican International Conference on Computer Science (ENC 2023)*, Guanajuato, Mexico.
- Mexican Congress on Artificial Intelligence (COMIA 2023)*, Zapopan, Jalisco, Mexico.
- Workshop on Causal Discovery (CaDis 2023)*, Tonantzintla, Puebla, Mexico.
- Robot Competition Workshop, 12th International Conference on Software Process Improvement (CIMPS 2023)*, Cuernavaca, Morelos, Mexico.
- X Applied Science and Technology Conference (JCyTA 2023)*, Cuernavaca, Morelos, Mexico.
- IX Applied Science and Technology Conference (JCyTA 2022)*, Cuernavaca, Morelos, Mexico.
- 2022 *VIII Applied Science and Technology Conference (JCyTA 2022)*, Cuernavaca, Morelos, Mexico.

JOURNAL AND CONFERENCE REVIEWER

- 2025 *International Journal of Combinatorial Optimization Problems and Informatics*, ISSN: 2007-1558. Indexed in the *Web of Science Core Collection: Emerging Sources Citation Index (ESCI)* and included in the SECITHI journal registry.
- 2024 *Revista Iberoamericana de Inteligencia Artificial (IBERAMIA)*, e-ISSN: 1988-3064. Indexed in the *Web of Science Core Collection*; Journal Impact Factor (2024): 3.7 (Q2); *Emerging Sources Citation Index (ESCI)*.

JOURNAL AND CONFERENCE REVIEWER (continúa)

Tecnología y Ciencia Aplicada journal. National Center for Research and Technological Development (CENIDET), ISSN: 2992-8338.

PROJECT REVIEWER

2026 Project: Hyperparameter optimization using micro-evolutionary algorithms for supervised classification in the medical domain. Institutional Call for Scientific Research 2026, University of Guanajuato.

VOLUNTEER ACTIVITIES

2024 Event staff: *Mexican International Conference on Computer Science (ENC 2024)*, Ciudad Madero, Tamaulipas, Mexico.

Event staff: *International Congress on Technology and Applied Sciences (CITCA 2024)*, Cuernavaca, Morelos, Mexico.

2023 Event staff: *12th International Conference on Software Process Improvement (CIMPS 2023)*, Cuernavaca, Morelos, Mexico.

Event staff: *Mexican International Conference on Computer Science (ENC 2023)*, Guanajuato, Mexico.

SCIENTIFIC ASSOCIATIONS AND MEMBERSHIPS

2026 – 2029 Member of the Research and Innovation Network in Artificial Intelligence and Data Science of TecNM.





2025 – 2026 Graduate Student Member, IEEE; Member ID: #98342526.

2025 – 2027 Member, Mexican Society of Artificial Intelligence (SMIA).

2023 – 2024 Member, Mexican Society of Computer Science (SMCC).

PUBLICATIONS

Journal Articles

- 1 E. Sanchez-Jimenez, H. Yasmín y L. O. Escobedo Bravo, «Complementing Standardized Handwriting Assessment with Sensor-Based Time-Series: A Comprehensive Evaluation of Speed and Dynamics,» *SSRN Elsevier*, En revisión.  DOI: <http://dx.doi.org/10.2139/ssrn.5745683>.
- 2 E. Sánchez-Jiménez et al., «Hyperparameter Optimization Approaches to Improve the Performance of Machine Learning Models for Cardiovascular Risk Prediction,» *Journal of Intelligent & Fuzzy Systems*, 2024, ISSN: 1064-1246.  DOI: <https://doi.org/10.3233/JIFS-219376>.
- 3 A. Cuevas-Chávez et al., «A Systematic Review of Machine Learning and IoT Applied to the Prediction and Monitoring of Cardiovascular Diseases,» *Healthcare*, vol. 11, n.º 16, 2023, ISSN: 2227-9032.  DOI: <https://doi.org/10.3390/healthcare11162240>.
- 4 E. Sánchez-Jiménez, Y. Hernández, J. Ortiz-Hernández, A. Martínez- Rebollar y H. Estrada-Esquivel, «Configuración de hiperparámetros mediante algoritmos de optimización: Aplicación en la predicción de enfermedades cardiovasculares,» *Research in Computing Science*, vol. 152, n.º 8, 2023, ISSN: 1870-4069.  dirección: https://www.rcs.cic.ipn.mx/2023_152_8/Configuracion%20de%20hiperparametros%20mediante%20algoritmos%20de%20optimizacion_.pdf.

Conference Proceedings

- 1 A. Cuevas-Chávez, S. Narciso, E. Sánchez-Jiménez, I. Celerino Pérez, Y. Hernández y J. Ortiz, «School Dropout Prediction with Class Balancing and Hyperparameter Configuration,» en *Advances in Computational Intelligence. MICAI 2023 International Workshops*, vol. 14502, Switzerland. DOI: https://doi.org/10.1007/978-3-031-51940-6_2.
- 2 V. Domínguez-Lara, E. Sánchez-Jiménez, Y. Hernández, J. Ortiz-Hernandez y S. M. García-García, «Towards Adaptive Tutoring: A Proposed Self-Efficacy Behavior Model for Intelligent Learning Environments,» en *Workshop on Intelligence Learning Environment (WILE 2025)*, In press, 2025.
- 3 R. Garcia-Reyez et al., «A Blockchain-Based Cybersecurity Model for Unauthorized Outage Prevention in AMI/SCADA Distribution Systems in México,» en *International Conference in Software Engineering Research and Innovation (CONISOFT 2025)*, In press, 2025.
- 4 J. G. Juárez-Hernández, A. Arredondo-Valle, E. Sánchez-Jiménez y A. Nazareth Fierro, «Comparative Analysis of CNN Architectures with Transfer Learning for Primary Skin Lesion Classification,» en *International Conference on Software Process Improvement (CIMPS 2025)*, In press, 2025.
- 5 E. Sanchez-Jimenez y L. Escobedo, «A New Inertial Time Series Numerical Integration Approach for Handwriting Speed Estimation,» en *Proceedings of the International Conference on Ubiquitous Computing and Ambient Intelligence (UCAmI 2025)*, J. Bravo, C. Nugent e I. Cleland, eds., En impresión, 2025.
- 6 E. Sánchez-Jiménez, Y. Hernández, J. Ortiz-Hernández y J. Mejía, «Improving the Performance of Machine Learning Models through Hyperparameter Fine-Tuning: An application in the medical domain,» en *International Conference on Software Process Improvement (CIMPS 2025)*, In press, 2025.
- 7 D. Domínguez-Gómez, E. Sánchez-Jiménez, Y. Hernández, J. de Dios González Torres y J. Ortiz-Hernandez, «Enhancing Dropout Prediction Models Through Feature Selection Techniques,» en *Mexican International Conference on Artificial Intelligence*, Springer, 2024, págs. 53-60. DOI: https://doi.org/10.1007/978-3-031-83882-8_6.
- 8 E. Sánchez-Jiménez, Y. Hernández, N.-A. Castro-Sánchez, J. Ortiz y N. Gonzáles-Franco, «An Overview of Generative Adversarial Network Architectures for Face De-identification,» en *Mexican International Conference on Computer Science (ENC)*, Tampico, Tamaulipas, 2024.
- 9 A. Cuevas-Chávez, E. Sánchez-Jiménez, Y. Hernández y J. Ortiz, «Class Balancing in Machine Learning Based on an Imbalanced Medical Dataset,» en *Mexican International Conference on Computer Science (ENC)*, Guanajuato, Gto., 2023. DOI: <https://doi.org/10.1109/ENC60556.2023.10508658>.
- 10 E. Sánchez-Jiménez, Y. Hernández y J. Ortiz-Hernández, «Breve revisión de la literatura sobre Modelos Predictivos para la Detección de Enfermedades Cardiovasculares,» en *Tecnología y Ciencia Aplicada*, vol. 5, Cuernavaca, Morelos, 2022, págs. 61-66. dirección: https://jcyta.cenidet.tecnm.mx/revistas/jcyta/08-Revista_JCyTA_Vol-5-Num-1_Ene-Jun_2022.pdf.
- 11 E. Sánchez-Jiménez, Y. Hernández y J. Ortiz-Hernández, «Técnicas de Optimización de Hiperparámetros en Modelos de Aprendizaje Automático para Predicción de Enfermedades Cardiovasculares,» en *Tecnología y Ciencia Aplicada*, vol. 5, Cuernavaca, Morelos, 2022, págs. 82-88. dirección: https://jcyta.cenidet.tecnm.mx/revistas/jcyta/09-Revista_JCyTA_Vol-5-Num-2_Jul-Dic_2022.pdf.

ACADEMIC REFERENCES

María Yasmín Hernández Pérez. Professor and Researcher (SNII Rank I).
National Center for Research and Technological Development (CENIDET)
 Tel. 777 140-4292
 email: yasmin.hp@cenidet.tecnm.mx

Lizabeth Olivia Escobedo Bravo. Professor and Researcher (SNII Rank I).
Faculty of Computer Science, Dalhousie University.
 Tel. 902 809-4898
 email: lizabeth.escobedo@dal.ca

ACADEMIC REFERENCES (continúa)

Javier Ortiz Hernández. Professor and Researcher (SNII Rank I).
National Center for Research and Technological Development (CENIDET)
Tel. 777 130-4582
Correo: javier.oh@cenidet.tecnm.mx

René García Reyes. Professor.
Global Open Campus University
Tel. 55 2325 8499

Sandra Magali García García. Professor.
Tecnológico Nacional de México campus Iztapalapa III.
Tel. 55 1932 7646

Fidel Ulín Montejo. Professor and Researcher.
Centro de Investigación de Ciencia y Tecnología Aplicada de Tabasco.
Datametrika Consultoría Estratégica de Sureste.
Tel. 993 195 5078
email: drulin@datametrika.com

Luis Reyes Velázquez Project Manager.
Datametrika Consultoría Estratégica de Sureste.
Tel. 914 127 0598
email: dces@datametrika.com

Supporting Documents:

Link: [Google Drive](#)