



Publicaciones recientes Ciencias de la Computación.

A Literature Review on Satellite Image Time Series Forecasting: Methods and Applications for Remote Sensing 2024 Wiley Interdisciplinary Reviews-Data Mining and Knowledge Discovery Carlos Alberto Lara Álvarez, Hector Rodriguez-Rangel, Juan J. Flores, Rodrigo Lopez Farias

Emerging Technologies for Second Language Learning in Secondary Education: A Review of Meta-Analyses 2024 Journal of Teaching and Learning Carlos Alberto Lara Álvarez, Ezra Federico Parra González, Carla Carola Gómez-Ledezma

UXpedite Learning Design (UxLD): Bridging Instructional Design and Software Engineering for Effective Augmented Reality Learning Environments 2024 Computers, Informatics, Nursing Carlos Alberto Lara Álvarez, Hector Cardona Reyes, Alexis Edmundo Gallegos Acosta,

Nonlinear Model Predictive Control for Pose Regulation Robot and Obstacle Avoidance 2024 Memorias del 2024 Congreso Nacional de Control Automático Edgar Daniel Rodríguez Martínez, Noe Guadalupe Aldana Murillo, Axel Ramirez Rocha, Emmanuel Ovalle Magallanes

Task Design in Virtual Reality Environments for Drone Pilot Training 2024 New Perspectives in Software Engineering Hector Cardona Reyes, Ezra Federico Parra González, Klinge Orlando Villalba Condori

Vision-based formation control of quadrotors using a bearing-only approach 2024 Robotics Héctor Manuel Becerra Fermín, Carlos Alberto Toro Arcila, Gustavo Arechavaleta Servin

Front-to-Bird's-Eye-View Transformation for Autonomous Vehicles: A Class Imbalance-Based Approach 2024 16th Mexican Conference, MCPR 2024 Israel Becerra Duran, Daniel A Martinez-Barba, Luis MValentin-Coronado, Sebastián Salzar-Colores





A Novel Consensus-Based Formation Control Scheme in the Image Space 2024 IEEE Control Systems Letters Jean Bernard Hayet , Héctor Manuel Becerra Fermín,

A Methodology for generating driving styles for autonomous cars 2024 Journal of Intelligent Transportation Systems Rafael Eric Murrieta Cid, Israel Becerra Duran, Ubaldo Ruiz. López, Rafael Peralta Blanco

Approximate Methods for Visibility-based Pursuit-Evasion 2024 IEEE Transactions on Robotics Rafael Eric Murrieta Cid, Israel Becerra Duran,

Decentralized multi-robot formation control in environments with non-convex and dynamic obstacles based on path planning algorithms 2025 Intelligent Service Robotics Rafael Eric Murrieta Cid, Luis Enrique Ruiz Fernandez, Javier Ruiz Leon, David Gomez Gutierrez

Feasible Minimum Distance Feedback-based-Navigation for a Differential Drive Robot in an Environment with Obstacles 2024 Journal of the Franklin Institute Rafael Eric Murrieta Cid, Edgar Daniel Rodríguez Martínez, Héctor Manuel Becerra Fermín, Israel Becerra Duran,

Learning Terrain Traversability for a Mobile Robot based on Information Fusion 2025 Inteligencia Artificial, Iberoamerican Journal of Artificial Intelligence, Rafael Eric Murrieta Cid, Israel Becerra Duran, Jose Eleazar Peralta Lopez, Alejandro Israel Barranco Gutierrez

On the Terminal Conditions of the Two Cutters and a Fugitive Ship Differential Game with Non-Zero Capture Radius and Different Players' Speed Ratio 2024 IFAC Journal of Systems and Control Rafael Eric Murrieta Cid, Israel Becerra Duran, Ubaldo Ruiz López

Vargas, S., Becerra, H. M., & Hayet, J. B. (2022). MPC-based distributed formation control of multiple quadcopters with obstacle avoidance and connectivity maintenance. Control Engineering Practice, 121, 105054.

Becerra, H. M., Vázquez, C. R., Arechavaleta, G., & Delfin, J. (2017). Predefined-time convergence control for high-order integrator systems using time base generators.

Jalisco S/N, Col. Valenciana, CP. 36023, Guanajuato, Gto. México. Apartado Postal 402, CP 36000.

Tel: +52 473 732 74 15. Email: cimat@matmor.unam.mx





- Becerra, H. M., López-Nicolás, G., & Sagüés, C. (2011). A sliding-mode-control law for mobile robots based on epipolar visual servoing from three views. *IEEE Transactions on Robotics*, 27(1), 175-183.
- Xu, P., Hayet, J. B., & Karamouzas, I. (2023). Context-aware timewise vaes for real-time vehicle trajectory prediction. *IEEE Robotics and Automation Letters*.
- Xu, P., Hayet, J. B., & Karamouzas, I. (2022, October). Socialvae: Human trajectory prediction using timewise latents. In *European Conference on Computer Vision* (pp. 511-528). Cham: Springer Nature Switzerland.
- Garcia, M., Stasse, O., Hayet, J. B., Dune, C., Esteves, C., & Laumond, J. P. (2015). Vision-guided motion primitives for humanoid reactive walking: Decoupled versus coupled approaches. *The international journal of robotics research*, 34(4-5), 402-419.
- Becerra, I., Yervilla-Herrera, H., Antonio, E., & Murrieta-Cid, R. (2021). On the local planners in the RRT* for dynamical systems and their reusability for compound cost functionals. *IEEE Transactions on Robotics*, 38(2), 887-905.
- Ruiz, U., Murrieta-Cid, R., & Marroquin, J. L. (2013). Time-optimal motion strategies for capturing an omnidirectional evader using a differential drive robot. *IEEE Transactions on Robotics*, 29(5), 1180-1196.
- Tovar, B., Murrieta-Cid, R., & LaValle, S. M. (2007). Distance-optimal navigation in an unknown environment without sensing distances. *IEEE Transactions on Robotics*, 23(3), 506-518.
- Cárdenas-López, H. M., Zatarain-Cabada, R., Barrón-Estrada, M. L., & Mitre-Hernández, H. (2023). Semantic fusion of facial expressions and textual opinions from different datasets for learning-centered emotion recognition. *Soft Computing*, 27(22), 17357-17367.
- Mitre-Hernandez, H., Sanchez-Rodriguez, J., Nava-Muñoz, S., & Lara-Alvarez, C. (2022). Classifying the difficulty levels of working memory tasks by using pupillary response. *PeerJ*, 10, e12864.
- Lara-Alvarez, C., Mitre-Hernandez, H., Flores, J. J., & Pérez-Espinosa, H. (2018). Induction of emotional states in educational video games through a fuzzy control system. *IEEE Transactions on Affective Computing*, 12(1), 66-77.
- Nilles, A. Q., Ren, Y., Becerra, I., & LaValle, S. M. (2021). A visibility-based approach to computing non-deterministic bouncing strategies. *The International Journal of*





Palomares, G., Becerra, I., & Murrieta-Cid, R. (2023). Control Inference Neural Network for Motion Planning with Dynamical Systems. *IEEE Robotics and Automation Letters*.

Jimenez, M., Becerra, I., & Ruiz, U. (2023). Toward inertial position tracking for head-mounted displays: a dataset and a deep learning approach evaluation. *Virtual Reality*, 27(3), 2605-2621.

Becerra, I., Valentín-Coronado, L. M., Murrieta-Cid, R., & Latombe, J. C. (2016). Reliable confirmation of an object identity by a mobile robot: A mixed appearance/localization-driven motion approach. *The International Journal of Robotics Research*, 35(10), 1207-1233.

Macias, V., Becerra, I., Murrieta-Cid, R., Becerra, H. M., & Hutchinson, S. (2018). Image feedback based optimal control and the value of information in a differential game. *Automatica*, 90, 271-285.

Martinez, E., Murrieta-Cid, R., & Becerra, H. (2023). An Automaton and Super-Twisting Sliding-Mode Control for Wall Following. *Journal of Control Engineering and Applied Informatics*, 25(2), 3-12.

Macias, V., Becerra, I., Martinez, E., Murrieta-Cid, R., & Becerra, H. M. (2021). Single landmark feedback-based time optimal navigation for a differential drive robot. *Journal of the Franklin Institute*, 358(9), 4761-4792.

Martinez, E., Laguna, G., Murrieta-Cid, R., Becerra, H. M., Lopez-Padilla, R., & LaValle, S. M. (2019). A motion strategy for exploration driven by an automaton activating feedback-based controllers. *Autonomous Robots*, 43, 1801-1825.

Ravell, D. A. M., Maia, M. M., & Diez, F. J. (2018). Modeling and control of unmanned aerial/underwater vehicles using hybrid control. *Control Engineering Practice*, 76, 112-122.

Oliva-Palomo, F., Mercado-Ravell, D., & Castillo, P. (2024). Aerial transportation control of suspended payloads with multiple agents. *Journal of the Franklin Institute*, 361(7), 106787.

González-Trejo, J., Mercado-Ravell, D., Becerra, I., & Murrieta-Cid, R. (2021). On the visual-based safe landing of UAVs in populated areas: a crucial aspect for urban deployment. *IEEE Robotics and Automation Letters*, 6(4), 7901-7908.

Flores-Aquino, G. O., Vasquez-Gomez, J. I., & Gutierrez-Frias, O. (2022). Custom distribution for sampling-based motion planning. *Journal of the Brazilian Society of*

Jalisco S/N, Col. Valenciana, CP. 36023, Guanajuato, Gto. México. Apartado Postal 402, CP 36000.
Tel: +52 473 732 7135 | www.cimat.mx



2025
Año de
**La Mujer
Indígena**



Mechanical Sciences and Engineering, 44(3), 73.

Flores-Aquino, G. O., Ortega, J. D. D., Arvizu, R. Y. A., Gutierrez-Frias, O. O., Muñoz, R.

L., & Vasquez-Gomez, J. I. (2021, November). 2D grid map generation for deep-learning-based navigation approaches. In 2021 International Conference on Mechatronics, Electronics and Automotive Engineering (ICMEAE) (pp. 66-70). IEEE.

Jaramillo-Avila, U., Aitken, J. M., Gurney, K., & Anderson, S. R. (2021, September).

Robust top-down and bottom-up visual saliency for mobile robots using bio-inspired design principles. In 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) (pp. 8444-8449). IEEE.

Jaramillo-Avila, U., & Anderson, S. R. (2019, July). Foveated image processing for faster object detection and recognition in embedded systems using deep convolutional neural networks. In Conference on Biomimetic and Biohybrid Systems (pp. 193-204). Cham: Springer International Publishing.

Jaramillo-Avila, U., Rostro-Gonzalez, H., Camuñas-Mesa, L. A., Romero-Troncoso, R. D. J., & Linares-Barranco, B. (2016). An address event representation-based processing system for a biped robot. International Journal of Advanced Robotic Systems, 13(1), 39.

