

Gustavo Enrique Ramos Alcaraz

📍 Ensenada, B.C., MX ✉ ramosg@cicese.edu.mx ☎ +52 646 295 29 66 🔗 <https://ram-gus.github.io/>

in Gustavo Ramos

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Education

- Ph.D. Centro de Investigación Científica y de Educación Superior de Ensenada**, Dept. of Electronics and Telecommunications, Division of Applied Physics. Ensenada, B.C., México
April 2020 - October 2024
- Ph.D. in Electronics and Telecommunications with a focus on Telecommunications.
 - **Research:** Design of a star recognition algorithm in astronomical images. (Thesis [🔗](#))
- M.Sc. Centro de Investigación Científica y de Educación Superior de Ensenada**, Dept. of Electronics and Telecommunications, Division of Applied Physics. Ensenada, B.C., México
August 2017 - December 2019
- Master of Science in Electronics and Telecommunications with a focus on Telecommunications.
 - GPA: 90.13/100.00
 - **Courses:** Signals and Systems, Fundamentals of Wireless and Satellite Communications, Digital Communications, DSP (Digital Signal Processing), Stochastic Processes, Satellite Systems.
 - **Research:** Development of a star recognition algorithm in astronomical images. (Thesis [🔗](#))
- B.Eng. Universidad de Colima**, Faculty of Mechanical and Electrical Engineering. Coquimatlán, Colima, México
September 2013 - August 2017
- Bachelor of Engineering in Communications and Electronics Engineering.
 - Thesis and EGEL exam unanimously approved with distinction.
 - **Courses:** Analog Electronics, Digital Electronics, Digital Systems, Programming Fundamentals, Control Systems, Networks and Telephony, Calculus.
 - **Thesis:** Simulation and Analysis of Time and Frequency Synchronization Strategies for OFDM Systems. (Thesis [🔗](#))

Work Experience

- Universidad Autónoma de Baja California, UABC, Faculty of Sciences**, Part-time Professor, Level C. Ensenada, B.C., México
July 2024 - now
- Course: Computer Organization and Architecture. Taught in the Computer Science program.
- Universidad de Ensenada, UNIENS**, Part-time Professor.
- Course: Information Technology. Taught in the International Business program. From September 2 to October 3, 2024.
 - Course: Management of Electronic Media. Taught in the Educational Sciences program. From November 11 to December 12, 2024.

Research Experience

- Centro de Investigación Científica y de Educación Superior de Ensenada**, PhD. Student. Ensenada, Baja California
April 2020 - August 2024
4 years and 2 months
- Creation and design of algorithms for object identification in images, using Python and Matlab.

- Operation of optical systems such as telescopes, lenses, and CMOS and CCD cameras.
- Data management and image cleaning.

Instituto de Astronomía, UNAM, Telescope Observer and Operator.

- Training in telescope operation and image acquisition techniques; participated in the observation campaign of asteroid 15094 Polymele.

Ensenada, B.C., México
August 2023 - February 2024
6 months

Instituto Nacional de Astrofísica, Óptica y Electrónica, INAOE, Research Summer Program.

- Project: “Signal Encoding Using Chaotic Oscillators Implemented on FPGA”.

Tonantzintla, Puebla, México
July - September 2016
2 months

Faculty of Mechanical and Electrical Engineering, Universidad de Colima, Institutional Social Service.

- Project: “Rehabilitation of Freescale Car Prototypes”.

Coquimatlán, Colima, México
January - July 2016
6 months

Publications

Double light source Ronchi Tester for detection of ruling rotations.

April 2024

Juan Manuel Nuñez-Alfonso, Javier Salinas-Luna, Yuliette Katinka Nuñez-Moreno, Joel Humberto Castro-Chacón, José Luis Monay-Arredondo, Benjamín Martínez-Chávez, **Gustavo E. Ramos-Alcaraz**, Iliana Marlen Meza-Sánchez [10.1088/1402-4896/ad368d](https://doi.org/10.1088/1402-4896/ad368d) [↗](#)

Star-Identification System Based on Polygon Recognition.

August 2023

Gustavo E. Ramos-Alcaraz, Miguel A. Alonso-Arévalo, Juan M. Nuñez-Alfonso [10.3390/aerospace10090748](https://doi.org/10.3390/aerospace10090748) [↗](#)

Conferences, Congresses, and Workshops

Workshop, NYRIA 2024, **Design of an algorithm for star recognition in astronomical images.**

San Diego, CA, USA
October 20-25, 2024

NYRIA Workshop 2024, focused on the development of scientific instrumentation in astronomy for ground-based applications in infrared and visible wavelengths. Participation in the interdisciplinary **Hackathon** for the design of a 1-meter telescope with minimal CO₂ emissions and pollution. Held at the Department of Astrophysics and Astronomy, UC San Diego.

Gustavo E. Ramos-Alcaraz [NYRIA Workshop 2024](#) [↗](#)

Congress, SOMI XXXIII, **Experimental Verification of a Star Identification Algorithm Using Ground-Based Telescope Images.**

Torreón, Coahuila, México
October 2018

Gustavo E. Ramos-Alcaraz [SOMI XXXIII Congress on Instrumentation](#) [↗](#)

Congress, SOMI XXXIII, **New Ronchi Tester That Eliminates the Grid Rotation Problem.**

Torreón, Coahuila, México
October 2018

Gustavo E. Ramos-Alcaraz

[SOMI XXXIII Congress on Instrumentation](#) [↗](#)

Talks

Physics Seminar “Dr. Alberto Rubio”, Faculty of Sciences, UABC 2024, **“Design of a star recognition algorithm for astronomical images.”**

Ensenada, B.C.
November 20, 2024

[UABC Physics Seminar](#) [↗](#)

Graduate Seminar in Electronics and Telecommunications III, CICESE, **“Design and implementation of a star identification algorithm with applications in satellite technology.”**

Ensenada, B.C.
May 24, 2023

[EyT CICESE Seminar](#) [↗](#)

Scholarships and Awards

CONACyT Ph.D. Scholarship (2020-2024): Doctoral scholarship awarded by the National Council of Science and Technology of Mexico, scholarship number 842163.

CONACyT Master’s Scholarship (2017-2019): Master’s scholarship awarded by the National Council of Science and Technology of Mexico, scholarship number 842163.

Scholarship for Outstanding Students (2016-2017): "Roberto Rocca Education Program" scholarship for undergraduate engineering studies.

Technical Skills

Programming Languages: Python, MATLAB, C, VHDL, and \LaTeX .

Software: Visual Studio, Anaconda’s Spyder, Microsoft Word and Excel, MATLAB, and Wolfram Mathematica.

Operating Systems: Microsoft Windows, GNU/Linux distributions such as Debian, Ubuntu, and Fedora, MacOS.

Languages

Spanish: Native proficiency

English: Intermediate level: ability to read and write technical documents, sufficient verbal communication.