

# Ignacio Maravilla

Mathematics Research Assistant | Mathematics | Computer Science | Physics

## Contact

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## Education

**California State University Monterey Bay**  
*B.Sc. in Mathematics and Computer Science*  
Present

**Hartnell College, Salinas, CA**  
*Associate's Degree in Mathematics*  
2024

## Skills

**Programming:** MATLAB, Python, C++, Java, Swift, SQL, R, Fortran

**Technical:** LaTeX, SolidWorks, CNC, Raspberry Pi, Arduino, Circuit Design

**Software:** Git, Linux, Soldering, Welding, CAD, Forklift Operation

**Languages:** Fluent in Spanish and English

**Soft Skills:** Leadership, Problem-Solving, Tutoring, Research Writing

## Research Experience

**Combinatorial Knot Theory** 2024 – Present  
California State University Monterey Bay, Salinas, CA

- Assisting in investigating mathematical conjectures related to modular arithmetic and parity proofs.
- Supporting faculty in developing combinatorial models for knot theory applications.

**Hartnell College x Lawrence Livermore Labs** 2009  
Mentor: Dr. Sewan Fan, Salinas, CA

- Designed a scientific black box system to study Sono Luminescent Bubbles.
- Developed a high-speed camera system and programmed logic gates for research.

**Naval Postgraduate School, Unmanned Systems Lab** 2008  
Mentor: Dr. Anthony Healey, Monterey, CA

- Contributed to autonomous underwater vehicle (AUV) research and integration.
- Conducted system reliability testing and assisted in research documentation.

## Teaching and Tutoring

**GEAR-UP Tutor** 2024 – Present  
California State University - Monterey Bay, Marina, CA  
at Alisal High School, Salinas, CA

- Tutor students in Algebra, Trigonometry.
- Assisted students in learning Python, C++, Java, and Study Skills.

**CTI Student Aid (Computer Talent Initiative)** 2024 – Present  
California State University - Monterey Bay, Marina, CA

- Tutor students in Linear Algebra, Differential Equations, and Calculus, Discrete Mathematics.
- Assist students in learning Python, C++, Java, and Study Skills.

**MESA Tutor (Mathematics Engineering Science Achievement)** 2008 – 2011  
Hartnell College, Salinas, CA

- Tutored students in Linear Algebra, Differential Equations, and Calculus.
- Assisted students in learning Python, C++, MATLAB, Modern Physics, Electricity and Magnetism, Kinematics, Circuits, Statics, Astronomy.