RENZO KENYI TAKAGUI PEREZ

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EDUCATION

Albert Einstein High School, Ancash, Huaraz *January 2012 - December 2015*
H.S. 4th grade, 2014 - Concentration in Science Olympiads

Pontifical Catholic University of Peru, Lima *January 2016 - July 2018*
Undergraduate program with concentration in Electronic Engineering.

Pontifical Catholic University of Peru, Lima *August 2018 - December 2021*
Undergraduate program with concentration in Physics

NATIONAL AND INTERNATIONAL COMPETITIONS

Mathematics - Physics

- CONAMAT(National Mathematics Competition for High School) in 2014
- ITPO(International Theoretical Physics Olympiad for Undergraduate) - Top 10% (10/148) in 2019

Algorithmic - Informatics
Intellectual challenge events that require problem-solving skills and algorithmic thinking.

IEEExtreme : 24h global challenge with algorithmic tasks
ICPC : Is an annual multi-tiered competitive programming competition among the universities of the world, considered as the "Olympics of Programming Competitions".

My achievements include:

- IEEExtreme 12.0 Programming Competition - Top 5% in 2018
- ICPC South America Finals - 54/145 in 2018
- IEEExtreme 13.0 Programming Competition - Top 5% in 2019
- IEEExtreme 14.0 Programming Competition - Top 3% (97/ 4000) in 2020
- Scholarship to attend competitive programming camps organized by universities in Argentina and Peru

RESEARCH EXPERIENCE

Undergraduate Senior Research: Exploration study in Holographic Entanglement Entropy
It From Qubit Collaboration - Supervised by PhD. Pablo Bueno
January 2021 - Present

- Study the relation of the entanglement entropy measure in free bosonic and fermionic quantum field theories and in interacting fields
- Understand the relation of entanglement entropy and the holographic principle as a way to study quantum gravity

Optic and Photonic Physics: Optical Tweezers
Physics 247: Independent Research. Overview of the development of the optical tweezers since its conception with a special emphasis on its application in Biology

CONFERENCES

"High Energy Physics Summer School"
Institute of Theoretical Physics - UNESP, Sao Paulo, Fev 22 - Mar 19, 2021
"Theoretical Physics in Rimac River XV"
National University of Engineering, Lima, March 15-17, 2021
"Summer School on Quantum Field Theory"
UNMSM, Lima, February 5-20, 2020

PROJECTS

- **Implementation of Pong Game with FPGA and Tiva Microcontroller**
  June 2018
- **Automated Greenhouse**
  December 2017

TEACHING

Coach-Participant, ICPC(International Collegiate Programming Contest) PUCP and IOI(International Olympiad in Informatics)

- Mentor and motivate students at yearly training camps
- Constant training for the ICPC South America Finals and ICPC World Finals and other Competitions
- Developed and taught classes on advanced algorithms, discrete mathematics and data structures

SKILLS

- **Programming Languages and Software Tools**: C/C++, Python, Fortran, Mathematica, Proteus, VHDL, Linux(Basic), LaTeX
- **Hardware and Digital System Design**: Tiva C series TM4C123GH6PM Microcontroller, Arduino, FPGA
- **Languages**: English(Advanced), Spanish(Native), French(Basic)