

# Yong Kwon

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Bachelor of Science  
PKNU, Busan, Republic of Korea

## Research interests

Quantum computing, quantum information

## Education

- 2022 – Present     **Pukyong National University** – Busan  
M.S. in physics  
Mentors: Prof. Byung-Soo Choi, Prof. Seung Ki Baek (–2022.05)
- 2016 – 2022     **Pukyong National University** – Busan  
B.S. in physics  
Mentors: Prof. Seung Ki Baek, Prof. Jaegon Um

## Publications

- 2022     **Correlation between concurrence and mutual information**  
Yong Kwon, Seung Ki Baek, and Jaegon Um  
Accepted, [arXiv](#)

## Research experience

- 2022 –     **TBA**  
Mentors: Prof. Byung-Soo Choi (PKNU)  
• TBA
- 2021 – Spring  
2022     **Entanglement vs mutual information on two qubit system**  
Mentors: Prof. Jaegon Um (POSTECH), Prof. Seung Ki Baek (PKNU)  
• Investigate on two spin-1/2 particles  
• Find correlated information entropy on classical definition and quantum definition  
• Compare two entropy values using ‘Concurrence’
- Fall 2020     **Quantum-like game development**  
Mentors: Prof. Jae-yeol Hwang (PKNU) (only for class guidance)  
• The word ‘Quantum-like game’ means a game made by applying the phenomenon to introduce to those who are not familiar with quantum physics.  
• This project worked during the one of undergraduate classes, ‘Capstone Design I’  
• My contributions: project idea suggestion, introducing concept of quantum-like games, GUI development  
• Find more detailed information following Github team [repository](#).

## Teaching experience

Spring 2022     **TA, Physical Experiment I (PKNU)**  
A physical experiment class in general physics topics for freshman students.

## Talks and posters

2022. 04.     **[T]** Correlation between mutual information and concurrence  
*KPS Spring Meeting 2022*
2021. 10.     **[P]** Correlation between mutual information and concurrence  
*KPS Fall Meeting 2021*
2021. 08.     **[P]** Entanglement vs. mutual information  
*Roles of heterogeneity in non-equilibrium collective dynamics (RHINO) 2021* [link](#)

## Technical skills

### Programming languages

Python, C (a little bit),  $\text{\TeX}$ , Markdown

### Software

$\text{\LaTeX}$ , Git, Mathematica, Linux (usually Ubuntu)

### Languages

Korean (mother language), English (intermediate level)

## Activities

2022. 01.     **The 19th KIAS-APCTP winter school on statistical physics**
2017. 07.     **PKNU-ISS (International Summer School) Program**
- Officially certified program by PKNU
  - Attended seasonal classes with abroad students who were enrolled to my university
  - To this program, my english skill has improved and felt their cultural difference
- Traveling abroad experiences**
- Vietnam (2016) , Taiwan (2016) , Japan (2018) and Italy (2020)