

Seongwon Yoon

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📁 [gabriel-yoon.github.io](https://github.com/gabriel-yoon)

🌐 [Gabriel-Yoon](#)

Education

- 2015 - 2022 **Seoul National University**, Seoul, Republic of Korea
GPA : 4.11 / 4.30 | Major (Materials Science and Engineering) - 4.12 / 4.30 (4th place)
Summa Cum Laude, Leave of absence for military service (12/2016 - 09/2018)
- 2012 - 2015 **Korea Science Academy of KAIST**, Busan, Republic of Korea

Experience

- 07/2022 - **Imagoworks Inc.**, Seoul, Republic of Korea
02/2023 Software Engineer, Deep CAD team, R&D Institute
◦ Acquisition of quality data for deep learning models
◦ Fine-tuning of generative models in products of [Dentbird Solutions](#)
- 01/2022 - **Samsung Electro-Mechanics**, Suwon, Republic of Korea
02/2022 Research Intern at Materials Research Group, Central R&D Institute
◦ Analyze TEM data of ceramic dielectric in multi-layer ceramic capacitor (MLCC)
- 03/2019 - **Neuromorphic Materials and Devices Laboratory(NMDL)**, SNU
10/2021, Undergraduate Researcher (PI : Prof. Sangbum Kim)
- 06/2023 - ◦ Established simulation environment for 1.4M 6T2R phase change memory synaptic array with 1.6K stochastic leaky-integrate and fire neurons based neuromorphic chip
Current ◦ Co-author of "Solving Max-Cut Problem using Boltzmann Machine based on Phase Change Memory"
◦ Funded by Student Directed Education program with \$3,000 a year.
- 12/2018 - **Bio-inspired Materials Laboratory**, SNU
02/2019 Undergraduate Researcher (PI : Prof. Kitae Nam)
◦ Fabrication of carbon nanotube embedded Mg-based hydrogen generating catalyst

Publications

Yugyeong Kang, Jaewon Park, Masatoshi Ishii, **Seongwon Yoon**, Uicheol Shin, Suyeon Jang, Minki Kim, Sangbum Kim, Solving Max-Cut Problem using Boltzmann Machine based on Phase Change Memory, *In submission*

Jungeun Park, **Seongwon Yoon**, Hannah Kim, Youngjun Kim, Woncheul Choi, Youngjun Choi, Hyungseog Yu, Uilyong Lee, Clinical validity and precision of deep learning-based Cone-Beam Computed Tomography automatic landmarking algorithm, *Submitted*, (2023)

Seongwon Yoon, Uicheol Shin, Sangbum Kim, Solving Constraint Satisfaction Problem with Spiking Neural Network based on 1.4M 6T2R PCM Synaptic Array with 1.6K Stochastic LIF Neurons Neuromorphic Hardware, *The 28th Korean Conference on Semiconductors*, (2020)

Selected Honors and Awards

- 09/2018 - **Jung-hun Foundation Scholarship**, *Jung-hun Foundation*
08/2020 ◦ Full tuition for 2 years (1 undergraduate from the department selected)
- 09/2015 - **Eminence Scholarship**, *Seoul National University*
12/2016 ◦ Full tuition of \$6,000 financial support for 1.5 years
- 21/10/2017 **Award Certificate from the Chief of Seoul Metropolitan Police Agency**,
Seoul Metropolitan Police Agency
◦ Certificate for diligent service (Less than 1% of auxiliary policeman selected)

Activities & Leadership

- Summer **Stanford Summer Session 2020**
2020 ◦ Took 'Introduction to High Performance Computing Systems' (ME344) course at Stanford University with full tuition support from Seoul National University
- 2020–2021 **SNU Global Volunteers in Vietnam**, *Director*
- 2019–2021 **Gongwoo (Honor Society of College of Engineering at SNU)**
- 2019–2021 **SNU Swimming Club (SNUPOOL)**
- 2016–2017 **SNU Student Ambassadors**
◦ Served English protocol service to foreign faculty members
- 2016–2017 **SNU DMSE Basketball Team (MSEBA)**
- 12/2016 - **Korea Auxiliary Policeman**, *Korea National Police Agency*
09/2018

Teaching Experience

- 09/2019 - **Undergraduate Tutoring Program**, *SNU*
02/2020 ◦ Recruited & funded by Seoul National University Liberal Education Dept.
◦ Opened 'Electronic properties of Materials' class with the textbook "Principles of Electronic Materials and Devices, S. O. Kasap"
- 03/2016 - **Tutoring Program at the College of Engineering**, *SNU*
12/2016, ◦ Recruited & funded by Seoul National University Materials Sci.& Eng. Dept.
03/2019 - ◦ Opened 'Chemistry of Organic Materials', 'Experiments in Materials 2', 'Electronic
09/2020 properties of Materials' classes for total 5 semesters

Skills & Languages

Programming C, C++, Python, Java, Go, Ruby, Matlab, ZWCAD, L^AT_EX
Languages English (fluent), Japanese (intermediate), Korean (native)
Test Scores TOEFL: 111, GRE: 159 (Verbal) / 169 (Quant) / 4.0 (Writing)