

Sooyoung Shin

444 Washington Blvd, Jersey City, NJ 07310

sooyoung_shin@alumni.brown.edu

+1)401-408-2392

EDUCATION

Brown University

Master of Science in Physics

Providence, RI

May 2021-May 2023

- Research Projects: Quantum computer transistor (Josephson Junction Qubit), Energy generation from Rotating Black Holes (Penrose process), Symmetry in Molecular Physics
- Relevant Coursework: Quantum Mechanics, Statistical Mechanics, Group Theory, Solid State Physics, General Relativity, Mathematical Physics

Chung-Ang University (CAU)

Bachelor of Science in Physics

Seoul, Korea

Mar. 2014-Sep. 2020

- Mandatory Military service in ROKAF 5th Tactical Airbase (Oct. 2015-Oct. 2017)
- Honoree of Chung-Ang Plus Scholarship (2018 & 2019)
- STM (Scanning Tunneling Microscope) Lab member (Aug. 2018- Sep. 2020)
- Relevant Coursework: Quantum Mechanics, Statistical Mechanics, Electromagnetism, Classical Mechanics, Computational Physics, Nuclear Physics, Beginning Python and Machine Learning, Advanced Solid State Physics

WORK EXPERIENCE

Assistant Accountant Intern

Samil PwC, Seoul KR

Jul. 2022-Aug.2022

- Hyundai Engineering & Construction: Reported risk of Dunchon Jugong Apartment construction
- Hyundai Mobis: Translated internal audit report to English
- Pulmuone Foods: Reviewed Semi-annual audit report
- KT&G: Drafted revision of internal control program

Research in Center for Berry Curvature Based New Phenomena

Sep. 2020- Feb. 2021

- Performing Korea National Policy Science Project as member of team

STM Lab in CAU

Building STM(scanning tunneling microscope) and making 2D samples

Oct. 2018-Feb. 2021

- Constructed Home-built STM system from scratch: Designed 3K dewar and cold finger
- Caught noise from high frequency noise from LN2 boiling, UHV (Ultra High Vacuum) & low Temperature leak
- Operated Superconductivity test of 20+ Twisted Bilayer Graphene samples
- Collaborated with 4 colleagues on study of superconductivity on VdW heterostructure 2D materials such as TBG (Twisted Bilayer Graphene) or TMDCs (Transition metal dichalcogenide monolayers)

Quantum Transport Research Lab in CAU

Sep. 2019-Dec.2019

- Learned Bi-Te-Sb sample manufacture for Seebeck Effect
- Learned semiconductor manufacture : cleaning, photolithography, PVD layer deposit, annealing

Intern

GO Element, Ansung KR

Nov. 2017-Mar.2018

- Suggested adding section in solid precursor canister to solve debris problem
- Operated ALD (Atomic Layer Deposition) of Oxidized Aluminum film deposition
- Designed PEB (Precursor Evaporation Box) using CAD
- Improved 7% yield percent by temperature & pressure control of vapor to handle condensation problem in ALD

LEADERSHIP

Club Activities

Brown University Baseball Club Team	May 2022-May 2023
<ul style="list-style-type: none">Quarterfinals team member in 2023 New England Club Baseball AssociationPlayed as 3B player and supported team as elder anchor	
Brown Fintech Member	Sep. 2022-May 2023
<ul style="list-style-type: none">Attended weekly talk	
Chung-Ang University Baseball Club Rendezvous	Apr. 2014-Oct. 2018
<ul style="list-style-type: none">Full time 3B (sometime SS) player	
Junior CEO Course (Conducted by Samsung)	Jul. 2019-Aug.2019
<ul style="list-style-type: none">Captained first place winning team in business operation simulation competition	

SKILLS

Equipment Operation	AFM(Atomic Force Microscope), OM(Optical Microscope), 3D CMM, SEM(Scanning Electron Microscope), 4-Point-Probe
Computer	Machine Learning(ML) with R and Python, C++ and MATLAB
Semiconductor	ALD, PVD-Sputter, Photolithography
Laboratory Skills	Building Mechanical System, Making Samples of 2D materials
Languages	English(Fluent) and Korean(Native)