Inyoung Ryu

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INTERESTS

Low-dimensional Topology. Teichmuller Theory, Knot Theory

EDUCATION

Texas A&M University   Aug.2021 – Present
Ph.D. in Mathematics   *Texas, US*
Ulsan National Institute of Science and Technology(UNIST)   Mar.2017 – Jul.2021
Bachelor of Science in Mathematical Science   *Ulsan, Korea*

- Minor in Computer Science and Engineering
- Awarded Academic Performance Scholarships for seven out of seven semesters
- Total GPA of 3.99 / 4.3 (95.9 / 100)

Sabanci University   Feb. 2020 – Jun. 2020
Exchange Student   *Istanbul, Turkey*
Jeonbuk Science High School   Mar. 2014 – Feb. 2017
                                                                                               Iksan, Korea

RESEARCH/STUDY EXPERIENCES

Reading Course with Prof. Tian Yang   Feb. 2022 – May. 2022
Texas A&M University   *Texas, US*

- Knot Theory. Jones Polynomial and Alexander Polynomial

Reading Course with Prof. Guoliang Yu   Feb. 2022 – May. 2022
Texas A&M University   *Texas, US*

- Higher index Theory

Topology group Study   Feb. 2022 – May. 2022
Texas A&M University   *Texas, US*

- Alexander Polynomial, Jones Polynomial and Khovanov Homology

Interdisciplinary Project   Sep. 2020 – Feb. 2021
Ulsan National Institute of Science and Technology   *Ulsan, Korea*

- Cooperating with Prof. Sun and two members to develop an understanding of Modular form
- Participating in the study of Modular curves as Riemann Surfaces
- Computed the dimension-counting formulas for spaces of modular forms, found the 1-dimensional specific cusp form space with the formula
- Seminars: 'The Structure of Elliptic Curves', 'Modular Curves as Riemann Surfaces',
  'Introduction to Automorphic forms & orders of functions on Modular curves'

Undergraduate Research Assistant   Jul. 2019 – Aug. 2019
Ulsan National Institute of Science and Technology   *Ulsan, Korea*

- Cooperated with Prof. Jun to develop an understanding of Algebraic Topology
- Constructed an Atlas for Smooth Manifold and Computed Homology groups

Research & Education Program   Mar. 2014 – Nov. 2014
Jeonbuk Science High School   *Iksan, Korea*

- Explored methods of finding solutions of cubic Pell equations $x^3 + dy^3 + d^2z^3 - 3dxyz = 1$
  with a new term 'Norm Form Diophantine Equation(NFD)'
- Presented research results at KAIST(Korea Advanced Institute of Science and Technology)
- Wrote a Paper *On the Solutions of Cubic Pell Equations*

Participated Conferences/Seminars/Forums

International Congress of Mathematicians(ICM)	Aug. 2014
	Seoul, Korea
The South Central Topology Conference	Sep. 2021
Texas A&M University	*Texas, US*
Texas Geometry and Topology Conference	Feb.2022
The University of Texas at Dallas	*Texas, US*
Graduate Student Topology and Geometry Conference	Apr. 2022
Georgia Institute of Technology	*Georgia, US*
Arizona Winter School	Jan.2021-Feb.2021
	Arizona, US

Teaching Experiences

Teaching Assistant(Engineering Math I) — Aug. 2022 – Present
Texas A&M University — *Texas, US*

- Had a class twice a week for Three sections (Total more than 100 students)
- Supplementary lecture and Q & A session
- Taught Python, Supported problem solving in lab sessions
- Graded quizzes & lab homeworks

Teaching Assistant(Calculus I, Calculus II) — Mar. 2018 – Dec. 2019
Ulsan National Institute of Science and Technology — *Ulsan, Korea*

- Supported problem solving in discussion sessions(approximately 100 students)
- Graded midterms & final exams

Calculus I Open Lecture — 6/2/2018
Ulsan National Institute of Science and Technology — *Ulsan, Korea*

- approximately 100 students participated

Tutoring for Middle school students — Aug. 2019 – Dec. 2019

Leadership Experiences

Tresurer — Aug.2022 - Present
Association for Women in Mathematics (Texas A&M, 60 members) — *Texas, US*

- Women in Math Mentoring Lunch
- AWM peer mentoring program
- Math Camp for Girl Scouts

Group Leader in English Camp — Jan. 2018
Ulsan National Institute of Science and Technology — *Ulsan, Korea*

- Guided 13 freshmen during the camp, assisted in learning English for students

Communication Director — Sep. 2017 – Jun. 2018
Elites of elites, Mathematics & Physics Club (UNIST, 155 members)

- Led club members to produce a promotional video and introduced the club to freshmen through the video

Education Director — Mar. 2018 – Jun. 2018
NEST, Drama Club (UNIST, 116 members)

- Education of new members; Provided training in acting and stage
- Planned& conducted an Ice-breaking program for the newcomers

Assistant Director of a Play — Jan. 2019 – Feb. 2019
College Play <Love Actually>

- Directed a play with director and 15 members
- Provide feedback on acting and improved the story of the play

Volunteer Activities & Working scholarship

Campaign to Improve Awareness of Disabled People   Apr. 2018 – May. 2018
Ulsan Welfare Foundation   *Ulsan, Korea*

- Participated in an original play about a disabled person and his family with NEST members

Manager of a Cultural Center   Sep. 2019 – Dec. 2019
Ulsan Youth Cultural Center   *Ulsan, Korea*

- Facility management; Managed the stage for Youth concert