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Nayeong Kim

Education

Sep 2024 - Aug 2029 (Expected)
UC Santa Barbara, PhD in Mathematics

AUG 2021 - DEC 2023
San Francisco State University, MA in Mathematics

MAR 2016 - AUG 2021
KAIST, BS in School of Computing, Double major in Mathematical Science

Experience

May 2024 - Aug 2024
CryptoLab, Seoul, Korea
Research Intern Benchmark Homomorphic Encryption Machine Learning models including HEaaN-SDK.

Feb 2023 - Jun 2024
San Francisco State University, San Francisco, California, United States
Teaching Assistant Grading Math 850 Graduate Algebra in Spring 2024. Grading Math 435/735 Modern Algebra 2 and Math 881 Matroid Theory in Fall 2023. Grading Math 420/720 Combinatorics and Math 350 Geometry in Spring 2023.

MAY 2022 - AUG 2022
Meta, Burlingame, California, United States
Software Engineering Intern In the VR Media Team, I worked on a project focused on streaming immersive videos that align with the user's viewpoint. I optimized data size by assigning varying weights to different directions within the videos.

DEC 2020 - MAR 2021
Moloco, Seoul, Korea
Software Engineering Intern While on the Cloud Backend Team, I worked on a project that location-targeted ads based on limited user information. As a side project, I also contributed to the internal cloud API.

JAN 2020 - FEB 2020
Google, Seoul, Korea
Software Engineering STEP Intern On the Android Media APIs Team, I developed a shadow library for the Android Media router to expedite testing.

Research

FEB 2023 - DEC 2023
Thesis, San Francisco State University
with Professor Federico Ardila-Mantilla
Title: Degrees of Tropical Root Surfaces of Classical Root Systems.

SEP 2020 - MAR 2021
Individual Study, KAIST
with Professor Ji Oon Lee
Studied random matrices and their applications in community detection. Implemented graph simulation using block stochastic model and symmetric block stochastic model and community detection following the paper *A simple SVD algorithm for finding hidden partitions*, Vu, 2014.

MAR 2020 - AUG 2020
Individual Study, KAIST
Visual Computing Lab, with Professor Min H. Kim
Developed and implemented an auto-focusing algorithm for the cameras used in the lab's light stage equipment. Solved a light position calibration problem for the light source and mirror ball in the lab's light stage equipment by extending modern techniques for light source estimation.

Talks

Nov 28, 2023

AGC Seminar *San Francisco State University*

Presentation about Tropical Surfaces of Root Systems with Alexander Low Fung. Result with Ardila-Mantilla, Cordero-Aguilar, McMillon. About the degree and tropical laplacian of tropical root surfaces.

Awards and Scholarships

Fall 2022

- **Robert William Maxwell Scholarship :**
  SFSU scholarship for graduate students in the College of Science & Engineering.
- **L.A. Chang Memorial Mathematics Scholarship :**
  Mathematics Department scholarship.
- **David Meredith and Friends Scholarship :** Mathematics Department scholarship.

Fall 2019 - Spring 2021

- **Samsung Research Scholarship :** For undergraduate research.

Fall 2019 - Spring 2020

- **Women Techmakers Scholarship :**
  2019 APAC WTM Scholar. Formerly the Google Anita Borg Memorial Scholarship Program.