

GAEUL (AUTUMN) KWON

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Education

Grinnell College

Bachelor of Arts in Computer Science (Minor in Linguistics)

Grinnell, Iowa

expected May 2025

Related Courses: *Algorithm Analysis, Computational Numerical Optimization, Software Design & Development, Computer Architecture, Java & C Programming, Linear Algebra, Graph Theory, Differential Equations, Applied Statistics, Statistical Learning*

Publications

- [1] Ikhyun Cho, **Gaeul Kwon**, and Julia Hockenmaier. "Tutor-ICL: Guiding Large Language Models for Improved In-Context Learning Performance". *The 2024 Conference on Empirical Methods in Natural Language Processing*. 2024. URL: <https://openreview.net/forum?id=mdc4lktdqN>.
- [2] Eleanor Glewwe, Ariana Furlong*, Lu Johnston*, Tanmaie Kailash*, **Gaeul Kwon***, and Zoe Zallek*. "Productivity, Universality, and Cumulativity in Sound Symbolism: A Pokémonastics Study of Georgian and English". *Annual Meeting on Phonology 2024*. 2024.

(* means equal contribution)

Research Experience

AI and Optimization Lab (PiStar) at Texas A&M University

Undergraduate Researcher

College Station, Texas

May 2024 - Aug 2024

- Investigated the effects of visual domain randomization of various light conditions (direction, intensity, shadow) to enhance the reinforcement learning-based autonomous racing algorithm.
- Constructed autoencoder models for successful sim-to-real transfer and their facilitated practical application in real-world scenarios.
- Tech:** Python, Pytorch, Reinforcement Learning, Autonomous Driving, Robot Operating System (ROS)

Computational & Synthetic Biology Lab (CSBL) at Korea University

Undergraduate Researcher

Seoul, South Korea

Mar 2021 - Aug 2021

- A novel Python algorithm that predicts the location of replication origins by GC-skew, k-mer(s), and shared motifs.
- Constructed an automotive routine to classify and visualize 20,000+ bacterial mtDNA data patterns from NCBI.
- Tech:** Python, Bioinformatics, Genetic Analysis

Industry Experience

PiQuant Co., Ltd.

Firmware Developer

Seoul, South Korea

Jun 2022 - Mar 2023

- Developed robust firmware solutions for the Portable Spectroscopic Analyzer project, resulting in improved product functionality.
- Performed thorough testing and validation of firmware releases, ensuring high-quality deliverables.
- Created comprehensive documentation for all developed firmware modules, facilitating easier updates and maintenance.
- Conducted regular code reviews with colleagues, fostering a collaborative environment for prioritized quality assurance.
- Tech:** C, Embedded System, Sensor Calibration, Communication Protocols

Projects

The Grinnell College Experience

2D Mobile Game Development

Spring 2024

- A top-down 2D Role-Playing Game (RPG) mobile game in the setting of Grinnell College.
- Tech:** Godot, GDScript, Git, Android, Agile Software Development

Hypocoristic Formation Rules in Korean

Linguistic Data Analysis

Spring 2024

- Conducted a literature review to explore the hypocoristic formation patterns in Korean nicknames and analyze the relevant data to find their general rules.
- Keywords: Hypocorism, Morphology

Pedagogical Implication of Digital Games in Second Language Acquisition

Literature Review

Fall 2023

- Discussed the pros and cons of digital games and their proper usage in different age groups in second language learning.
- Selected as a poster presentation in Language & Linguistics Student Showcase at Grinnell College.
- Keywords: Second Language Acquisition, Game-based Learning

Teaching Experience

Department of Computer Science at Grinnell College

Grinnell, Iowa

Course Assistant

Spring 2022, Fall 2023, Spring 2024

- Graded weekly labs, assignments, and quizzes for six classes of 136 students.
- Provided personalized feedback to students to increase their code efficiency and brevity.
- Worked closely with the professors to organize the rubrics and ensure students' clear understanding of learning objects.
- Courses: Computer Organization and Architecture (Spring 2024), Analysis of Algorithms (Spring 2024), Functional Problem Solving (Fall 2023), Objected-Oriented Problem Solving, Data Structure/Algorithms (Spring 2022)

Alternative Language Study Option (ALSO) at Grinnell College

Grinnell, Iowa

Korean Tutor

Spring 2020, Fall 2023, Spring 2024

- Tutored three Korean introductory classes, helping the students to practice daily conversation and develop oral skills. All students got more than 90% in their final oral evaluations.
- Created course plans and relevant interactive activities to help students improve their Korean language proficiency.
- Led individual tutoring sessions to provide personalized feedback and guidance to students.
- Worked closely with the professor and other ALSO tutors to share class contents, teaching methods, and feedback.