# Gaeul (Autumn) Kwon

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## Education

**Grinnell College** **Grinnell, Iowa**

*Bachelor of Arts in Computer Science (Minor in Linguistics)* *expected May 2025*

***Courses:*** *Algorithm Analysis, Computational Numerical Optimizations, 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". **Under Review**. 2024.

[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". **Submitted** to Linguistic Society of America. 2024.

## Research Experience

**AI and Optimization Lab (PiStar) at Texas A&M University** **College Station, Texas**

*Undergraduate Researcher* *May 2024 - Aug 2024*

- Investigated the effects of visual domain randomization of various light conditions 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** **Seoul, South Korea**

*Undergraduate Researcher* *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 from NCBI.

## Work Experience

**PiQuant Co., Ltd.** **Seoul, South Korea**

*Firmware Developer* *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