

Autumn Kwon

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| EDUCATION | University of Southern California M.S. in Computer Science | Los Angeles, CA Aug 2025 - May 2027 |
| | Grinnell College B.A. in Computer Science (Minor in Linguistics) Advisors: Profs. Nicole Eikmeier, Eleanor Glewwe | Grinnell, IA Aug 2019 - May 2025 |
| RESEARCH EXPERIENCE | SLURM Lab @ University of Southern California Graduate Research Assistant Topics: Human-Robot Interaction, Social Robot Navigation, Visual Language Models Advisor: Dr. Daniel Seita | Los Angeles, CA Oct 2025 - Present |
| | University of Illinois Urbana-Champaign Undergraduate Research Assistant Topics: Natural Language Processing, Large Language Models, In-Context Learning, Sparse Autoencoders Mentor: Ikhyun Cho (Ph.D. Student, 4th year) | Remote Mar 2024 - Apr 2025 |
| | <ul style="list-style-type: none">Developed a comparative prompting method that improved classification accuracy by up to 13.8% across Llama 2/3 and Flan-T5-XL/XXL.Investigated the versatility of sparse autoencoders (SAEs) beyond interpretability, showing that SAE reconstruction loss provides a strong unsupervised signal for prompt selection. | |
| | PiStar Lab @ Texas A&M University Undergraduate Researcher Project: Verification of Sim-to-Real Transfer in RL-based End-to-End Autonomous Racing Using Visual Domain Randomization Advisors: Dr. Jason O’Kane, Dr. Guni Sharon | College Station, TX May 2024 - Aug 2024 |
| | <ul style="list-style-type: none">Implemented reinforcement learning models with visual domain randomization (light direction, intensity, shadow) to improve robustness.Demonstrated successful sim-to-real transfer: the final model consistently completed the full track in real-world tests under randomized light direction and shadow, unlike the baseline model.Designed and trained autoencoder models to support feature extraction and transferability between simulation and physical environments. | |
| INDUSTRY EXPERIENCE | Korea University Undergraduate Research Assistant Project: Replication of Origin in Mitochondria Advisor: Dr. In-Geol Choi | Seoul, South Korea Mar 2021 - Aug 2021 |
| | <ul style="list-style-type: none">Designed a 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. | |
| INDUSTRY EXPERIENCE | PiQuant Co., Ltd. Firmware Engineer Project: Portable Spectroscopic Analyzer Development Supervisors: Doyeon Pi, Gwanwoo Lee | Seoul, South Korea Jun 2022 - Mar 2023 |

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| | <ul style="list-style-type: none"> • 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. | |
| TEACHING EXPERIENCE | <p>Department of Computer Science @ Grinnell College Grinnell, IA</p> <p>Course Assistant</p> <p>CSC-211: Computer Organization and Architecture (Spring 2024, Spring 2025)</p> <p>CSC-301: Analysis of Algorithms (Spring 2024)</p> <p>CSC-151: Functional Problem Solving (Fall 2023)</p> <p>CSC-207: Objected-Oriented Problem Solving, Data Structure & Algorithms (Spring 2022)</p> <p>Supervisor: Sarah Dahlby Albright</p> <ul style="list-style-type: none"> • Graded weekly labs, assignments, and quizzes for six undergraduate classes (a total 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. | |
| | <p>Alternative Language Study Option @ Grinnell College Grinnell, IA</p> <p>Peer Instructor</p> <p>Korean II (Spring 2020, Fall 2023), Korean III (Spring 2024)</p> <p>Supervisor: Dr. Anastasia Izmaylova</p> <ul style="list-style-type: none"> • 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. | |
| LEADERSHIP EXPERIENCE | <p>Graduate Research Seminar (GRS) Los Angeles, CA</p> <p>Co-Founder Oct 2025 - Present</p> <ul style="list-style-type: none"> • Organized weekly research seminar to create an open and engaging environment for graduate students in STEM fields. • Currently 40 researchers joined the group and 10 of them on average participate the regular meeting. | |
| PUBLICATIONS | <p>[3] Productivity, Universality, and Cumulativity in Sound Symbolism: A Pokémonastics Study of Georgian and English Eleanor Glewwe, Ariana Furlong*, Lu Johnston*, Tanmaie Kailash*, Gaeul Kwon* and Zoe Zallek* Submitted to Laboratory Phonology Presented at Annual Meeting on Phonology 2024</p> <p>[2] On the Versatility of Sparse Autoencoders for In-Context Learning Ikhyun Cho, Gaeul Kwon, and Julia Hockenmaier The 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP 2025 Findings)</p> <p>[1] Tutor-ICL: Guiding Large Language Models for Improved In-Context Learning Performance Ikhyun Cho, Gaeul Kwon, and Julia Hockenmaier The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024 Findings)</p> | |
| | * indicates equal contribution. | |

AWARDS &
FELLOWSHIPS

**Research Experiences for Undergraduates (REU)
Founder's Scholarship, Grinnell College**

*May 2024 - Aug 2024
Aug 2019 - May 2025*

REFERENCES

Daniel Seita

Assistant Professor of Computer Science, University of Southern California
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Jason O' Kane

Professor of Computer Science & Engineering, Texas A&M University
Research Supervisor of the REU program in Applied Computational Robotics
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Eleanor Glewwe

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Course Instructor of Morphology, Linguistic Typology, and Experimental Linguistics
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Anastasia Izmaylova

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