

Yunji (Ella) Kim

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EDUCATION

Columbia University

M.S. Computer Science | Software Systems Track

Coursework: Machine Learning, Computer Security, Intro to Cryptography, Intro to Databases

New York, NY

Expected Dec 2024

Grinnell College

B.A. Computer Science | Minor in Linguistics | GPA: 3.92 / 4.00

Coursework: Advanced Algorithms Analysis, Automata and Computational Theory, Computer Architecture, Data Structures, Linear Algebra, Operating Systems and Parallel Computing, Software Development and Design

Programming Languages: Java, C/C++, R, Python, SQL, React, JavaScript, HTML, CSS, MIPS, Scheme, Unix/Linux

Honors: Phi Beta Kappa (**Top 2% of Graduate Class**), Dean's Honors List ('20 – '23), Tapia Conference Scholar '21, Korea Business Competition 1st Place Speaker

Grinnell, IA

May 2023

WORK EXPERIENCE

Undergraduate Student Researcher

Grinnell College Computer Science Department

Grinnell, IA

May 2022 – Jan 2023

- Innovated classification method known as **Field Network Index (FNI)**, ranking scholars based on scholars' research production's proximity to core field keywords and co-authors, providing insight into academic landscape.
- Implemented communications between **R**, **Javascript** visualizations, and datasets generated in **Python Script Bibliometrics** using R's reticulate package for Python and CustomMessageHandlers and reactive inputs for JS.
- Built human-centered solution to exploring relevant research domains and generating scholars' network visualizations.

Program Manager / R Developer

Grinnell College Computer Science Department

Grinnell, IA

Jan 2022 – May 2022

- Implemented interactive vertical tree and word cloud in R to make an application that enables Grinnell College Career Center staff to understand data of 100+ courses and how they correspond to college's 8 learning outcome goals.
- Cleaned and filtered large datasets in **R** to conduct relevant data analyses tailored to client's educational context.
- Led **Agile** meetings in a team of four, from brainstorming relevant research questions based on client's dataset and delegating work amongst members; Nominated **1st place app** amongst 10 apps by Grinnell College Career Center.

Teaching Assistant / Student Mentor

Grinnell College Computer Science Department

Grinnell, IA

Aug 2021 – May 2022

- Collaborated with course professors to establish 7 project rubrics for Functional Problem Solving course.
- Guided and mentored students for over 100 hours, writing practice quizzes and giving personalized assistance.

Research Assistant

Seoul National University of Technology, Biosensor Lab

Seoul, KR

Dec 2018 – May 2020

- Designed voltammetric method utilizing a computerized sensor for real-time detection of E. coli contamination.
- Ly, Suyoung; Lee, Chaeyun; **Kim, Yunji**; Jiwon, Min; Jun, Sihyun. *In-vivo Assay of Escherichia coli Microorganisms in a Live Organ using Voltammetric Microprobe* at IJCMAS.

PROJECTS

SQL Developer, Delivery Application Logger

Aug 2023 –

- Implemented a logging database application in **PostgreSQL**, designed for food delivery company employees to search for recent orders, customer details, driver information, restaurant data, etc. of their platform.

C Developer, Flashcard Games 2.0, GitHub Link

Mar – May 2023

- Created a digital flashcard game for Grinnell students, offering individual and multiplayer modes to study vocabulary.
- Innovated stop function algorithm of how host player stops accepting players and starts game by a timeout struct.
- Utilized **POSIX** sockets and threads to allow users to join and communicate over a network and efficiently send flashcard files to connected users while achieving a 2.1x increase in average efficiency for message transmission.

Java Developer, Artificial Life Simulator

Oct – Dec 2021

- Developed a program to simulate behaviors in artificial life systems via dynamics of cooperation between bacteria, and simulate what type of organisms thrive in order to predict optimal environments for survival of each bacteria type.