

Yunji (Ella) Kim

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EDUCATION

Columbia University

M.S. Computer Science | Machine Learning Track

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

New York, NY

Expected Dec 2024

Grinnell College

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

Grinnell, IA

May 2023

Honors: Phi Beta Kappa (**Top 2% of Graduate Class**), Dean's Honors List ('20 – '23), Tapia Conference Scholar '21

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

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.
- Led development of an interactive data visualization dashboard for academic database searches via keywords and authors' network visualizations, designing a human-centered solution to exploring relevant research domains.
- Implemented 1000+ lines of code in **R/Shiny** to connect data mining results from 3 different academic databases, integrating interactive visualizations in **JavaScript** with datasets generated in **Python Script Bibliometrics**.

Teaching Assistant

Grinnell College Computer Science Department

Grinnell, IA

Aug – Dec 2021

- Collaborated with course professors to establish 7 project rubrics for Functional Problem Solving course.
- Guided and mentored students for over 100 hours, designing practice quizzes and providing personalized assistance to address students' questions while offering constructive feedback.

Research Assistant

Seoul National University of Technology, Biosensor Lab

Seoul, KR

Dec 2018 – May 2020

- Designed a voltammetric method utilizing a computerized sensor for **real-time detection** of E. coli contamination.
- Improved and cleaned graphs and raw data in **R** while ensuring accurate results, optimizing diagnostic processes.

PROJECTS

SQL Developer, Job Recruitment System

Jul – Sep 2023

- Created job search database design on PostgreSQL, storing information related to job seekers, employers, job listings, and skills, and implemented fuzzy searching through string matching.

C Developer, Quizlet 2.0, [GitHub Link](#)

Mar – May 2023

- Innovated digital flashcard game and study tool (Quizlet 2.0) for Grinnell students, offering both individual and multiplayer modes to study vocabulary, with network and distributed systems integration.
- Achieved a 2.1x increase in average efficiency and speed by incorporating multithreading for background message transmission between clients.

R Developer, College-Wide Learning Outcome Data Visualization App, [GitHub Link](#)

Feb – May 2022

- Led development of interactive word cloud and vertical tree visualizations in R in a team of four, implementing Shiny app for users to sort and understand 100+ courses relative to 8 different learning outcome goals.
- Conducted data analyses and formulated relevant research inquiries based on dataset, delivering data visualization application tailored to client's educational context; Nominated 1st place app by Grinnell College Career Center staff.

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.