# Esther Park

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## EDUCATION

**Georgia Institute of Technology**                                                                                     Atlanta, GA
- Candidate for B.S Computer Science                                                               Expected May 2027

## WORK EXPERIENCE

**Ghent University Global Campus**                                                           Incheon, South Korea
Biotech Data Scientist Intern                                                                          Mar 2022 – June 2023
- Generated the data in **JSON format** for hierarchical navigable small networks (HNSW) containing **1000 nodes** of bacterial 16S sequences using non-maximum search algorithms in **C++** to identify the attributes of each node, such as id, level, and friends
- Developed a set of **python** tools to process the JSON input data and output a filtrable HNSW graph
- Visualized the HNSW network graph through **Cytoscape** to determine the similarity between bacterial sequences

**Cairo Programming Club**                                                                                      Cairo, Egypt
Web Developer & Instructor                                                                              Dec 2019 - June 2021
- Built the Q&A website by **Django web-programming framework** to help students in the Cairo community
- Designed the website which contains the following functions: sign in / sign up, search bar, posts, and comments
- Taught seven students various levels of algorithms, including binary search, bfs, dfs, dijkstra, and union find, 2 hrs / week

**Cairo West Power Plant**                                                                                        Cairo, Egypt
Energy Analyst Intern                                                                                        July 2020 – Aug 2020
- Conducted research and analysis on the importance of the application of IT and AI which can optimize the power transmission and distribution and mitigate the power outage issues

## PROJECTS

**Shimon: Singer and Songwriter**                                                                         Atlanta, GA
Undergraduate Research                                                                                  Sep 2023 - Present
- Debugged codes written in **C++** to solve an issue of the collision between the arms of Shimon when it receives notes that are too fast

**Robojackets - roboracing**                                                                                 Atlanta, GA
Robotics Software Engineer                                                                              Sep 2023 - Present
- Examined Euler spiral method, dynamic programming (nonlinear programming method), artificial intelligence approach, and integrated approach to identify optimal racing lines
- Developed software for robot control and automation using vision processing, machine learning, motion planning, and motion control in **C++** with **ROS framework**, aiming to participate in Autonomous Karting Series (AKS) 2024

## LEADERSHIP EXPERIENCE & EXTRACURRICULAR ACTIVITIES

**GreyHat**                                                                                                              Atlanta, GA
Member                                                                                                            Sep 2023 - Present
- Acquired a comprehensive understanding of cybersecurity in analyzing, exploiting, and defending computer systems together, along with reverse engineering of application
- Directed members to prepare for capture-the-flag competitions

**Korean Association Computer Science (KCS)**                                                Atlanta, GA
Documentation Assistant                                                                               Sep 2023 - Present
- Categorized electronic documents by topics for the first time
- Recorded bi-weekly meetings and assigned tasks to each member until the next meeting

## SKILLS

**Programming Languages**: C++, Python, Java, R, HTML, CSS, Javascript, PHP
**Languages:** Fluent in English, Korean; Conversational Proficiency in Arabic
**Certifications:** Cisco Certified Network Associate (2023), edX Harvard University Data Science: R Basics (2021), edX Harvard University CS50's Introduction to Computer Science (2020)
**Awards:** Qualified in United States of America Computing Olympiad (USACO) Gold Division (2022)