# Hyoyeon Lee

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## EDUCATION

**University of Bristol** Sept 2022 - Present

*Bachelor of Science in Computer Science* Bristol, UK

- **Year 3**: **Machine Learning** (**92%**), Computer Graphics (70%), Image Processing and Computer Vision & Types and Lambda Calculus (64%), and Applied Data Science.
- **Year 2**: Achieved First Class with an average of **77%**, Ranked **15/**116 - Top 10% from Programming Language and Computation

## WORK EXPERIENCE

**University of Bristol** June 2024 – July 2024

*Faculty-Funded Summer Research Internship* Bristol, UK

- Participated in '**Correctness-guided Code Generation with Large Language Models**' project, supervised by Dr. Cristina David.
- Developed automated software that verifies the correctness of generated proof harness functions of a given C program from LLMs using CBMC until valid results are obtained.
- Implemented different types of prompts (one-shot, few-shots, CoT) and benchmarked time/memory efficiency, and refinement rate.
- Improved execution time by **28%** and reduced memory usage by **23%** across **200+ C-programs** by adopting one-shot prompting.

**University of Bristol** Sept 2023 - Present

*Teaching Associate – Graduate Teacher Level 1, Demonstrator* Bristol, UK

- Supported students by leading problem classes and delivered over **175 hours** of teaching.
- **Assisted Lectures**: Mathematics in Computer Science A / B, Programming Language and Computation, Algorithms and Data

## PROJECTS

**Automated Social Media** Nov 2023 – June 2024

*Space NxT* Hybrid

- Developed a website with an embedded AI tool to automate image generation and post to designated social media platforms.
- Participated as a backend developer by implementing features for trends selection and integrating Twitter and LinkedIn API.
- Assisted in utilising Stable Diffusion to enable image generation based on user-selected trends.

**Object-Oriented Programming Final Coursework** Mar - May 2023

*University of Bristol* Bristol, UK

- Developed a **Java**-based implementation of an undirected graph-based board game.
- Implemented minimax algorithm and alpha-beta pruning techniques to optimise AI's strategic decision-making process.
- Designed and employed scoring methods based on unique costs of multiple factors for AI decision-making process, enhancing the competitiveness and fairness of the AI opponents.

## SKILLS

**Languages:** Korean (Native), English (Fluent), German (Beginner)

**Technical Skills**: - **Proficient:** Java, GoLang, Python - **Intermediate:** C, C++, CBMC, Pandas, Scikit-Learn, PyTorch - **Exposure:** Haskell, SQL, HTML, CSS, Unity

## LEADERSHIP

**University of Bristol** Oct 2023 – Sept 2024

*UG Computer Science International Student Course and UG School of Computer Science Programme Representative*

- Actively participated in FSSLC and SSLC (Student Staff Liaison Committee) meetings, delivering feedback to the academic team.
- Collaborated with the Student Union and Liaison Office to promote effective communication between international students and faculty, fostering a positive learning environment.
- Implemented enhanced protocol for reporting unacceptable behaviours, resulting in a more effective process for students.

## AWARDS & SCHOLARSHIPS

- **2024**: *Best Visual Award* with a prize of £100 from the University of Bristol CSS GameJam 2024 – *Haunted Escape*
- **2024**: Bristol Plus Award, Participation Award from *London Encode AI Hackathon – TheraGo*
- **2023**: Participation Award from University of Bristol CSS GameJam 2023 – *Mystical Running*
- **2022**: NCUK Prize Award with £1,000 scholarship – Awarded due to high academic performance from foundation course.