

Ayush GUPTA

Email: ayush51379work@gmail.com

Mobile: +91 6264770765

[LinkedIn](#)

[GitHub](#)

ABOUT ME

Location: Currently in India (**Indian Passport**)

Education: **Master's** and **Bachelor's** degrees from **HKUST, Hong Kong**: ranks in **Top 40 universities in the world**, by [QS](#)

Experience: About **6 years** of **programming experience** and **2.5 years** of **work experience** (received stipend) at HKUST

Skills: Programming, Frontend Web development, UI/UX design, Machine Learning, Data Science, Research

Technologies: Python, Java, C++, SQL, JavaScript, React.js, Vue.js, TypeScript, HTML, CSS, REST APIs, Agile, CI/CD

Languages: Fluent in English and Hindi

EDUCATION

The Hong Kong University of Science and Technology: HKUST, Hong Kong (Top 15 in Asia and Top 40 in World by [QS](#))

Master's degree: M.Phil. in Computer Science and Engineering, HKUST Feb 2020 - Nov 2022

- Specialized in Artificial Intelligence and Data Science. Research [publication](#) in EuroVIS 2022 supported by IEEE
- **Award:** Stipend recipient for Software Engineering and Research roles
- **Grade:** 3.5/4.3 (A- to B+ range)

Bachelor's degree: B.Sc. (Honors) in Mathematics - Computer Science track, HKUST Sep 2016 - Nov 2019

- Completed core courses in Mathematics and Computer Science, with additional courses in Data Science
- Finished 4-year honors program in 3 years via consistent credit overload
- **Awards:** University Entrance Scholarship and Dean's list award
- **Grade:** 3.3/4.3 (B+ approximately)

EXPERIENCE

The Hong Kong University of Science and Technology: HKUST, Hong Kong (Top 15 in Asia and Top 40 in World by [QS](#))

Software Engineer, Smart Dining Halls HKUST, Industrial Collaboration Feb 2020 - Aug 2022

- Developed data-driven solutions for automated food waste monitoring in restaurants, via an industrial collaboration project, using frontend web development, UI/UX design, database, machine learning, and research
- Reduced storage costs by 100x through machine learning techniques to process 22,000 hours of 4K UHD videos for object detection and image extraction. Created website based user interfaces for monitoring food waste trends
- Created an interactive visual analytics dashboard for model diagnosis and machine learning models for classifying food waste images with 91% accuracy in dish classification and 80% in quantity classification on real-world data
- Wrote **Master's Thesis:** "Monitoring Food Waste in Restaurants Using Computer Vision and Data Visualization"
- **Technologies:** Python, Machine Learning, MySQL, Frontend web development, UI/UX design, CI/CD, Agile

Postgraduate Teaching Assistant for Computer Science Courses, HKUST Feb 2021 - Dec 2021

- Assisted professors in teaching graduate and postgraduate courses on Python programming and Deep Learning
- Conducted regular doubt-clearing sessions for 100+ students and graded assignments and exams

Software Engineer, Smart Campus Pulse of HKUST Jun 2020 - Dec 2020

- Maintained and improved the [Smart Campus Pulse](#) project's frontend codebase, implemented design improvements using TypeScript, React.js, and D3.js
- Updated the dashboard website to visualize data and trends, improving overall aesthetics and usability
- **Technologies:** Frontend website dashboard (React.js, TypeScript, JavaScript with D3.js, HTML, CSS)

PROJECTS

Frontend Web and Data, Kaggle Data Science Global Survey

- Performed data processing and ETL on global survey data from Kaggle with over 20,000 users across 171 countries
- Developed a [dashboard website](#) to visualize data and conducted analysis to identify interesting trends
- **Technologies:** Dashboard website (JavaScript with D3.js, Vue.js, HTML, CSS), Data Processing and Analysis (Python)

Game Development, in Several Programming Languages: Java, Python, MIPS and C++

- Developed multiple games with Graphical User Interfaces (GUIs) using various programming languages to strengthen proficiency in Object-Oriented Programming, Algorithms, and Data Structures
- Created a Magical Shooting Game in [Python](#) using Turtle Graphics and Pygame, Developed various text-based games in C++, Developed a Space Shooting Game in [Java](#), Designed a Pac-Man-themed game in [MIPS](#)

Final Year Project in Bachelor's degree, ["A Computational Comparison of Sorting Algorithms"](#)

- Researched and analyzed sorting algorithms on real datasets up to 10 million entries during Bachelor's degree in Computer Science. Compared findings with previous research and identified the top-performing algorithm.
- Determined computational methods provide better insights than theoretical methods
- **Concepts:** Python, Algorithms and Data Structures, Research

Machine Learning and Research, Detection of Fake News

- Created Deep Learning models to classify over 13,000 online news articles as fake or real based on their images
- Compared performances of [model architectures](#) from research papers published in top global conferences
- Obtained 85% accuracy on images classification from real-world data using MVNN model
- **Technologies:** Python, Data Analysis, Machine Learning for Computer Vision