

Ayush GUPTA

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ABOUT ME

I am a hardworking individual with **over 2 years** of work **experience** as a **Data Scientist and Researcher**.

I am very passionate about utilizing my technical skills for problem solving. I am a strong **team player** and have also been a **leader** and **project manager** of several projects. My skill set includes **Programming, Machine learning** (Computer Vision and Natural Language Processing), **Data analysis, Data Science, Research and Web development**.

SKILLS

Key Skills: Python, JavaScript, C++, Java, HTML, CSS, Machine learning, OOPS Concept, Linux.

Languages: English, Hindi.

WORK EXPERIENCE - The Hong Kong University of Science and Technology (HKUST), Hong Kong

Top 40 University in the World, according to QS Rankings

Data Scientist and Researcher, Industrial Collaboration with University, HKUST Feb 2020 - Present

- Working on Smart Dining Halls, Sustainable Smart Campus initiative, to provide food waste analysis at restaurants.
- Applied **Deep Learning for Computer vision** to create models for image classification.
- **Automated** data extraction and analysis of over a million images from thousands of hours of videos.
- Created a **Data visualization** dashboard using **Web development tools**.
- Tools: **Python, Tensorflow, Linux, JavaScript, HTML, CSS**.

EDUCATION - The Hong Kong University of Science and Technology (HKUST), Hong Kong

Top 40 University in the world, according to QS Rankings

MPhil in Computer Science (Research Master's degree), HKUST, Hong Kong Feb 2020 - Expected Dec 2022

- Working as a **Data Scientist and Researcher** in a University scale project with industrial collaboration.
- Completed **courses** in **Artificial Intelligence & Data Science**.
- **Computer Science Teaching Assistant** - Helped Professors in teaching graduate and postgraduate courses.
- **Received Full Stipend** by University for working on research projects.

BSc (Honors) in Mathematics - Computer Science Track, HKUST, Hong Kong Sep 2016 - Nov 2019

- **Completed** essentials from both Mathematics and Computer Science majors, and extra courses in Data Science.
- **Completed** the **4 years Honors program in 3 years** by consistently taking extra credits.
- **Received University Scholarship** and **Dean's list award**.

Class 12 Boards - Shiv Jyoti Sr. Sec. School, Rajasthan, India Apr 2015 - Apr 2016

- **95%** in each of Mathematics, Physics and Chemistry.

PUBLICATION

Full paper published internationally, Eurographics Conference on Visualization (EuroVis) 2022 Apr 2022

- **Title - Misinformed by Visualization: What Do We Learn From Misinformative Visualizations?**
- To inform public towards misinformative visualizations. **Authors** - LYH Lo, A Gupta, K Shigyo, A Wu, E Bertini, H Qu.
- Collected 130K images from **3 major search engines** using their **APIs**, to **analyze** their visualization mistakes.
- Created a taxonomy for 74 visualization mistakes and grouped into 12 groups.

- [To appear in June 2022](#). The EuroVis conference is **supported by IEEE** and EuroGraphics.

PROJECTS

Leader and Computer vision researcher, Detection of Fake News Sep 2020 - Dec 2020

- Led a team of 5 members, consisting of MPhil and PhD students in Computer Science.
- Implemented **Deep learning** models and algorithms in Computer vision to classify over 13K news articles as fake or real based on their constituent images. Utilized **image classification**, augmentation, and processing.
- Developed [Model architectures](#) from recent research papers published in top international conferences.
- Tools: **Python, Data Analysis, Machine learning.**

Frontend Web Developer, Kaggle Data Science Global Survey Sep 2020 - Dec 2020

- Performed **Data Processing** and **ETL** - Extraction, Transform and Load to the data obtained from a global survey by Kaggle of over 20K users from 171 countries. Utilized **Python** programming.
- Developed a **visualization dashboard** - [frontend website](#) to visualize the exciting trends and conducted Data analysis. Tools: **HTML, CSS, JavaScript with D3.js library, Vue framework.**

Software Developer, in Python, Java, C++ and MIPS Programming languages Sep 2017 - Dec 2020

- Improved my programming skills by regularly developing various small games in different programming languages.
- **Developed games** in several programming languages, such as **Python** - [Magical Harry Potter Game](#) - Using Turtle Graphics and Pygame, **Java** - [Space Shooting Game](#), **MIPS** - [Pacman Theme game](#), and **C++** - various small games.

Machine learning engineer, Kaggle competition - Predicting Students' Test Score Sep 2019 - Dec 2019

- Participated in a Global competition of **Regression** and **Classification** with raw text data of over 100M entries.
- Performed Data Processing, Visualization, Analysis, **Natural Language Processing (NLP)**, utilized **Python**.
- Experimented with various Machine learning and Deep learning techniques to train and test models.
- Implemented **Deep learning models** - using Logistic Regression, SVM, Decision Tree, LSTM, Light GBM, Cat boost.

Software Engineer and Project Manager, Data Visualization of Top Spotify Songs Feb 2019 - May 2019

- **Project Manager** of the 4 members [project](#). Recognized as the **best project in class** in a final year course.
- **Analyzed and Visualized Data** of top songs from 2 years, 2017 & 2018, from 53 countries.
- Discovered and Created tools useful to Potential Stakeholders such as Labels, Artists, and Listeners to find good markets to launch songs, identify countries with highest growth potential. Utilized **Python** and **Javascript**.

Algorithms Researcher, 'A Computational Comparison of Sorting Algorithms' Sep 2018 - Dec 2018

- **Performed** comparison of 4 **sorting algorithms** based on their performance on **real randomly generated datasets**.
- Utilized dataset size upto 10 million entries. Compared the results with that of previous researchers.
- [Final Year Project](#) in Bachelor's in Mathematics. Tools: **Python, Data Analysis and Visualization.**

COMMUNITY SERVICE

Local Guide @ Google Maps Community Service, Hong Kong and India Sep 2016 - Present

- Helping people to find interesting restaurants and other places to visit in Hong Kong and India.
- Contributed hundreds of reviews and photos of over 80 places to visit.
- Generated about a million views in my posts and have helped many people.

Volunteer, HKUST Connect Community Service in Hong Kong Sep 2016 - June 2019

- Participated in various volunteering events to help the elderly, kids, and minority groups.

- Helped in the smooth running of these events, which involved distributing food and household items, drawing activities, swimming contests, blood donation, and more.
- These events resulted in increased happiness among those communities.