ANMOL MAHAJAN

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Education

2016 – 2020	**Thapar Institute of Engineering and Technology**	**Patiala, India**

Bachelor of Engineering in Computer Engineering
- CGPA: 8.04/10

Work Experience

Jan'20–Present **upGrad Education Private Limited** **Bangalore, India**

Senior Associate– Content (Jul'20 – Present)
- Analyzed the demand of technical online programs; helped the team manager build the program, including designing the curriculum, conducting current learners research, and selecting the type of technology stack to be taught for Bachelor's and Master's in Computer Applications with specialization in cloud computing.
- Contributed to the Computer Networks and Network Programming course development, which included tools like Wireshark, Netcat, Mininet, and XAMPP to design a network application project in which the client would connect to the server, and the server will provide an IP address, and the netmask. The client will compute the network number and the broadcast address and communicate them back to the server. The server would verify it and answer whether the test is successful or failed—the project involved Protocol Design Requirements, Protocol Implementation, Protocol Enhancements and Result Analysis.
- Delivered three training sessions on the working of the technical content team for the new employees; familiarized them with the design principles of content creation and the processes involved in the creation of a complete module.
- Carried out two learning sessions on Creation of Dynamic Websites using MVC Architecture and Frequent Patterns and Association Rule Mining in Data Analytics.

Content Consultant - Intern (Jan'20 – Jun'20)
- Worked with the Data Engineering Content Team to create content for the Data Mining course which included a project on Automating Exploratory Data Analysis of Housing Data from Kaggle.
- Used tools like Numpy and Pandas for Exploratory Data Analysis, and SciKit-Learn Pipelines to automate the data processing for the large dataset.
- Sorted and reviewed the research methodology modules like Research Design, Research Project Management, Report Writing and Presentation, and Scientific Ethics recorded by Liverpool John Moores University, England.

Academic Projects

Jan'19–Nov'19 **Visual Aid Assistant (Capstone Project)**
- Used Raspberry Pi 3B+ on Raspbian OS to design goggles for the visually challenged which detect objects/obstructions and provide real time speech output.
- Used COCO dataset for object detection, and GTTS library for the text-to-speech function.
- Decreased the processing time by narrowing the field of view and optimizing it further by implementing an algorithm that prioritizes objects coming towards the user and rejects those which are moving away.
- Increased its accuracy by deploying image enhancement techniques.
- Involved in the setting up of OS and interconnectivity of modules.
- Employed knowledge of Computer Vision, Artificial Intelligence, Database, Embedded Systems, Image Processing, Operating Systems, and Software Engineering to develop the goggles.

- The video demonstration of the project is shared in this link: project demonstration

Sep'19–Oct'19 **API Rate Limiter**
- A server-side rate-limiting solution which tracks the number of requests that are made by a user over a given period of time and blocks requests when the number of calls exceeds the predefined threshold.
- The server-side processing is carried out using Django REST API Framework to handle API requests efficiently.
- SQLite, the default database of Django Framework, is used to store the information of users via forms.
- The postman application is used to test rate limiting API through a token that identifies and uses the API.
- The project details are shared here: https://github.com/Anmol-Mahajan/Project-API-Rate-Limiter

Aug'19–Nov'19 Student Co-op Management System

- Developed an application to manage the placement and internship information of the students. It notifies the students if they are eligible to be hired by a particular company and allows them to fill their information accordingly.
- Used HTML and CSS to design the Student and Placement Coordinator Webpages.
- Employed SQLite for managing the database of the student and internship information.
- Worked with Django Web Framework which uses Python Programming language in the backend to execute functionalities like sorting eligible companies for a student based on company's criteria, shortlisting students and managing the notifications for upcoming companies and additional rounds of interviews.

Jan'18–May'18 Model of Automated Trains

- Designed the transmitter and receiver circuits and set them up using EAGLE software.
- Designed and implemented the Arduino code that enabled 3 trains to run simultaneously.
- Made communication possible by using the XBee module in the circuit.

Jan'18–May'18 Bus Availability Checking System in Punjab

- A bus availability check system for finding cheaper and readily available buses taking the shortest travelling path by collecting two inputs from the user – the time and the place of travel.
- Gathered data from official sources and added it manually using the Standard Template Library in C++.
- Implemented the system using Dijkstra's Algorithm.
- Employed the knowledge of Data Structures, Algorithms and Computer Programming (C++).
- The project details are shared here: Anmol-Mahajan-Bus-Availability-Checking-System-

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Major Courses Undertaken

- Parallel and Distributed Systems, Cloud Computing, GPU Computing, and Simulation and Modelling

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Technical Skills

- **Languages:** C, C++, Python, Java, CUDA C
- **Tools:** Django, MySQL, Wireshark, Netcat, Postman, HTML, CSS, MATLAB
- **Operating Systems:** Windows, Linux
- **Network Protocols:** TCP, UDP, ARP, DHCP, HTTP, DNS

Achievements, Certifications and Extracurricular Activities

- Certificate course in AWS Cloud Fundamentals which includes Security in Cloud, Migration in Cloud and Building Serverless Applications.
- Participated in the AWS Builders Online Series on Choosing Databases in a Serverless Architecture, which emphasized on Relational Databases and Redshift (Aug'19).
- Executive member of the Economics Club at Thapar Institute of Engineering and Technology (2018).
- Member of the Har Hath Kalam Foundation from 2016-2019, an NGO focusing on providing education to underprivileged children, uplifting beggars in Patiala, and empowering women.
- Volunteered at Gramya Manthan 8.0 in 2017, a rural emersion programme where I learned to formulate long-term goals to improve the health and educational condition of villages of Kutch district of Gujarat which were destroyed from the disastrous earthquake of 2001.
- Won multiple medals in various swimming competitions in Punjab.
- Won a bronze medal at the CBSE North Zone (India) Judo Championship in the year 2013.