



Utkarsh Bansal

 [utsbansal](#)

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EDUCATION

- University at Buffalo, The State University of New York** Buffalo, NY
Master of Science - Computer Science and Engineering; GPA: 3.95 Expected Dec 2022
- Ambala College of Engineering and Applied Research** Ambala, India
Bachelors in Technology - Computer Science and Engineering; Percentage: 85.2/100 Aug 2017 - Jul 2021

SKILLS & TOOLS

- Computer Languages** C++, Python, JavaScript, Java, C, SQL.
- Software & Libraries** React, PyTorch, Node.js, MongoDB, Docker, ROS, Scikit-learn, NumPy, Pandas, Postman.
- Courses & Certifications** Front-end Web Development with React and Bootstrap, Machine Learning, Data Science, Programming in C, Database Management Systems.

WORK EXPERIENCE

- Center for Unified Biometrics and Sensors, Research Assistant** Jun 2022 - Present
 - Working on dataset generation for a hazardous label detector on packages for United States Postal Services.
 - Extending research on EAC net, proposed for better results on action unit detection on BP4D and DISFA datasets.
 - Evaluating performance of different OCRs on the FBI fingerprint card dataset.
- University at Buffalo, Teaching Assistant - CSE 421/521 Operating Systems** Feb 2022 - May 2022
 - Assisted the instructor in course schedule along with assignment planning.
 - Mentored students in course projects and held doubt clearing sessions.
 - Graded student exams and assignments.

PROJECTS

- File Access Manager as a Distributed System** Feb 2022 - May 2022
 - Made a distributed file access manager where user can upload files and set file access rights.
 - Leveraged React.js and Node.js for build of the application. Utilized Docker to simulate the distributed environment.
 - Used Redis for session management and RAFT algorithm to achieve consensus among nodes.
- Motif based analysis of Bitcoin Transaction Network** Feb 2022 - May 2022
 - Performed analysis on different sources providing Bitcoin transaction datasets.
 - Devised an algorithm to obtain transactions along with timestamp and construct a temporal graph.
 - Conducted temporal analysis and motif counting on temporal graph of one week of Bitcoin transactions.
- Face Detection and Clustering System** Apr 2022
 - Developed a system which could detect faces in multiple images and clustered similar faces together.
 - The system leveraged Haar Cascade method to detect faces in a given image.
 - Calculated SIFT features of the detected faces and then applied K-Means clustering on the detected features.
- Panorama Stitcher** Mar 2022
 - Built a system which could stitch images together to form a panorama.
 - System detects which images can be stitched together by using SIFT features.
 - Transformation is applied according to the matched SIFT key points.
- Perception and Path Planning, Robotics** Sep 2021 - Oct 2021
 - Executed planning algorithms in C++ such as Bug2 and A* taking advantage of ROS, tf and stage.
 - Designed a perception system, making use of RANSAC algorithm, for wall detection.
 - The robot could move from start to finish in given binary world map.
- Printing Job Management System** Feb 2021 - May 2021
 - MERN application formulated for Rupa Packaging Industries to digitalize job management operations.
 - User can view, add, update jobs and track steps (designing, printing etc.) needed for a job's completion.
- Data Structures and Algorithm Visualizer** Sep 2020 - Dec 2020
 - Visualized stack and queue data structures as well as BFS and DFS graph traversal algorithms utilizing React and Bootstrap to assist remote learning during COVID-19 pandemic.
- Personal Travelogue Website** Aug 2020 - Sep 2020
 - Travel blog and portfolio built using Bootstrap and React libraries.
 - Hosted on Github using Github Actions(CI/CD).