Utkarsh Bansal

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EDUCATION

- **University at Buffalo, The State University of New York**   Buffalo, NY
  Master of Science - Computer Science and Engineering; GPA: 4.0   *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**   Python, C++, JavaScript, Java, C, SQL.
- **Software & Libraries**   React, Node.js, MongoDB, 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

- **University at Buffalo, Teaching Assistant - CSE 421/521 Operating Systems**   Feb 2022 - Present
  - Mentoring students in course projects and holding doubt clearing sessions.
- **VA Software Solutions, Intern**   May 2020
  - Created training material on leveraging Postman to build and test Web APIs.
- **Entrepreneurship Promotion and Incubation Council, UI Design Intern**   Dec 2019 - Jan 2020
  - Built UI for an application to measure temperature of hot metals using smartphone camera.
- **VA Software Solutions, Intern**   Jul 2019 - Aug 2019
  - Presented documentation on Web API best practices and authentication techniques (OAuth 2.0).

COURSE PROJECTS

- **Robotics Algorithms**   Sep 2021 - Dec 2021
  - Executed planning algorithms such as Bug2 and A* taking advantage of ROS, tf and stage.
  - Designed a perception system, making use of RANSAC algorithm, for wall detection.
  - Modeled a system for feature matching in images by applying Harris Corner Detection and RANSAC.
- **Operating Systems**   Sep 2021 - Dec 2021
  - Accomplished priority scheduling and MLFQ scheduling among threads.
  - Improved alarm clock functionality enabling threads to sleep without busy waiting.
  - Worked on process initialization and setup of user level processes.
- **Machine Learning**   Sep 2021 - Dec 2021
  - Implemented LDA, QDA, linear regression, ridge regression, logistic regression, CNNs and SVMs using NumPy and Scikit learn libraries on the MNIST dataset for digit classification.

PERSONAL PROJECTS

- **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 built using Bootstrap and React libraries.

VOLUNTEER EXPERIENCE

- **Volunteer, Sneh Sparsh- A free home care service for terminally ill cancer patients**   Jun 2017 - Jul 2021
  - Conducted seminars on importance of early detection of cancer in schools and colleges.
  - Served as driver to home care service team by driving vehicle to patients' houses.
- **Indian Delegate, Discover Qatar in 144 Hours** 🌐   Sep 2019
  - Selected as part of Indian delegation to Qatar for an educational program organized by Qatar Youth Hostels.
  - Collaborated with Qatar Youth Hostels to promote tourism and learnt about history and culture of Qatar.