Saket Upperla

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Education

University of Texas at Austin Aug. 2023 – Present
B.S. Computer Science | ***GPA**: 3.92/4.0* *Austin, TX*

- **Courses**: Introduction to Programming, Data Structures, Discrete Math, Robot Learning, Multivariable Calculus

Technical Skills

Languages: Java, Python, JavaScript, HTML, CSS
Frameworks: React.js, Next.js, Express.js
Developer Tools: Git, VS Code, IntelliJ, Eclipse

Experience

Programmer Jan 2020 – May. 2023
Eagle Robotics *Allen, TX*

- Coded core robot subsystems in Java, enabling functionalities such as climbing, driving, intaking, and shooting game balls
- Integrated a Limelight smart camera to utilize offset and PID control for precise robot alignment with dynamic targets in real-time
- Utilized PathPlanner to design and optimize autonomous driving trajectories

Research Intern June. 2022 – Aug. 2022
UTD Quality Of Life Technology Life *Plano, TX*

- Developed skills in regression analysis utilizing Linear and Logistic Regression (LR) techniques, and gained foundational knowledge in Neural Networks and Convolutional Neural Networks (CNNs)
- Learned how to classify structured and unstructured datasets, with a focus on medical imaging diagnostics and smart health records

Projects

Storytunes | Next.js, Express.js, Spotify API, Axios July 2024

- Developed a fully functional web application with a dynamic Next.js front-end, integrating the Spotify API to generate theme-based songs for Instagram stories
- Implemented Axios for efficient and streamlined communication with the Spotify API
- Leveraged Express.js to host a web server, manage HTTP requests and routing, and interact with the Spotify API

ROS Object Detection | Python, ROS, YOLOv5 May 2024

- Developed and implemented a ROS wrapper for the YOLOv5 object detection model, integrating it with an Intel RealSense D435 camera to enable real-time object detection in robotic applications
- Integrated a ROS publisher node that broadcasts detailed object information to other ROS nodes
- Created a custom dataset using Roboflow and applied transfer learning techniques to refine the object detection model for dining-related objects

Huffman Coding | Java, GUI May 2024

- Developed a data compression program utilizing the Huffman algorithm, including integer-to-byte conversions for efficient encoding and decoding
- Engineered a custom Priority Queue to construct a Huffman Tree based on character frequency, ensuring fair insertion and proper handling of nodes with identical frequencies

Leadership

Vice President Aug. 2022 - May 2023
Turing Club *Allen, TX*

- Collaborated with math teachers to establish coding clubs at 2 local middle schools, fostering an early interest in computer science
- Instructed middle school students in Python syntax and guided them through problem-solving exercises to enhance their understanding of both practical and theoretical applications
- Developed curriculum in a way to ensure a strong understanding of the fundamentals of computer science