**Kishan Ved**
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Discipline of Computer Science and Engineering
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## ACADEMIC DETAILS

| Degree | Specialization | Institute | Year | CPI/% |
|---|---|---|---|---|
| B.Tech. | *Computer Science and Engineering* | IIT Gandhinagar | 2022-Present | 9.75(/10) |
| Class XII | *Physics, Chemistry, Maths* | Prakash College, Mumbai | 2020-2022 | 85 |
| Class X | | Thakur International School, Mumbai | 2014-2020 | 97.8 |

## PROJECTS

- **Spacecraft Charge Distribution Modelling**                                      [Sept '23 - Nov '23]
  *(Advisor - Professor Soumyabrata Chakrabarty, Scientist- ISRO SAC, Professor- IIT Gandhinagar) | Project Link*
  - Conceptualized and executed a project focused on mathematically modeling the charge distribution on the surface of a spacecraft in outer space orbits, with specific emphasis on mitigating risks associated with uneven charge distribution.
  - Developed and implemented a methodology utilizing the method of moments to derive equations for charge density on the spacecraft's surface. Employed numerical methods such as Gaussian elimination, Gauss-Jordan algorithm, and TDMA to solve the system of equations, providing a detailed and accurate charge distribution profile.

- **Child Safety Monitoring Application, IoT Powered bicycle safety system**                  [Sept '23 - Nov '23]
  *(Advisor - Professor Nithin V. George, IIT Gandhinagar) | Project Link*
  - Developed a comprehensive Android/iOS mobile application, transforming the phone into a smart IoT embedded system for monitoring child safety during cycling. Implemented advanced features, including real-time GPS, accelerometer, and gyroscope data monitoring, alongside boundary detection, fall detection, and over-speed alerts.
  - Integrated a custom-built mini Google Maps for the IITGN campus, allowing seamless real-time location sharing and communication between the parent and child devices. Utilized MATLAB for backend processing, Simulink for UI design, and TCP/IP protocols for efficient real-time data transfer and voice communication.

- **Intelligent Game Engine (DSA Project)**                                      [Sept '23 - Nov '23]
  *(Advisor - Professor Balagopal Komarath, IIT Gandhinagar) | Project Link*
  - Developed a repository featuring intelligent game implementations, where the computer employs optimal strategies to make informed moves, showcasing proficiency in algorithmic decision-making, especially graphs and path finding algorithms.
  - Engineered a cubesolver capable of generating the most efficient solutions for any 2x2x2 Rubik's Cube, highlighting problem-solving skills and a deep understanding of algorithmic optimization. Additionally, designed a Sudoku solver demonstrating expertise in logical puzzle-solving algorithms.

- **IITGN Technical Summit's Official Website**                                      [Sept '23 - Nov '23]
  *(Technical Team, Amalthea, IITGN Technical Summit) | Project Link*
  - Played a pivotal role as a key contributor in the development team for the official website of Amalthea '23, the annual technical summit at IIT Gandhinagar.
  - Made significant contributions to the website's design, functionality, and overall development, ensuring a polished and user-friendly online platform for the summit. Worked collaboratively to implement innovative features and enhance the digital experience for participants and attendees.

- **Student Resume Generator Website**                                      [Dec '23 - Ongoing]
  *(Technical Team, Career Development Services (CDS), IIT Gandhinagar) | Project Link*
  - Developing an innovative website dedicated to the automatic generation of student resumes, adhering to the specific format mandated by the Placement Cell at IIT Gandhinagar.
  - Engineered an intuitive user interface enabling students to input their details seamlessly, with the system autonomously generating professional resumes. Emphasized precision and conformity to Placement Cell standards in both design and coding, streamlining the resume creation process for students.

- **Machine Learning Blogs Website**                                      [Aug '23 - Ongoing]
  *(Advisor - Professor Nipun Batra, IIT Gandhinagar) | Project Link*
  - Crafting technically in-depth blogs to unravel the mathematical foundations driving machine learning algorithms, enhancing comprehension of their operational mechanisms and predictive capabilities.
  - Visualising the mathematics behind machine learning algorithms and explaining their working.

- **Forcasting Stock Prices using Machine Learning**                                      [Jan '23]
  *(3rd position in HackRush, IITGN's annual hackathon) | Project Link*
  - Orchestrated a machine learning project centered on predicting stock prices by harnessing the capabilities of the XGBoost algorithm, a powerful ensemble learning technique.
  - Engineered a sophisticated predictive model that delved into historical stock data, leveraging XGBoost's algorithmic prowess to enhance accuracy and responsiveness in forecasting. The project showcased adept algorithmic implementation and optimization strategies to navigate the intricacies of stock market dynamics effectively.

- **MetaIITGN** [Jun '23 - Ongoing]
  *(Technical Council, IIT Gandhinagar) | Project Link*
    - One of the founding contributors of this platform. Designed web pages using MKDocs and merged them on github.
    - Working on making the platform open to discussions adding additional functionalities.

- **Data Narratives** [Jan '23 - Apr '23]
  *(Advisor - Professor Shanmughanathan Raman, IIT Gandhinagar) | Project Link*
    - Analysed and organized the data of highly complex datasets using Numpy, Pandas, Matplotlib and Python.
    - Extracted quality information from the dataset and used it to predict trends by using machine learning techniques.

- **Text Chat Web Application, Metis IIT Gandhinagar** [May '23]
  *(Advisor - Metis, Web and App Development Club, IIT Gandhinagar) | Project Link*
    - Deployed a web application that allows users to communicate in real-time.
    - Learned the use of NodeJS and SocketIO and creating a large codebase of organised codes.

- **Human Following Trolley** [Jan '23 - Apr '23]
  *(Advisor - Professor Arup Lal Chakraborty, IIT Gandhinagar) | Project Link*
    - Built a robotic trolley to track hand movements and follow the person without any physical contact.
    - Explored the use of ultrasonic sensors in harmonization with infrared sensors to track movements.

## CERTIFICATIONS

- **Supervised Machine Learning: Regression and Classification**
  *(Coursera) | Certificate Link*
    - Learned to build machine learning models in Python using popular machine learning libraries NumPy & scikit-learn.
    - Built & trained supervised machine learning models for prediction & binary classification tasks, including linear regression & logistic regression.

## TECHNICAL SKILLS

- **Programming Languages:** C++, C, Python, Java, HTML, CSS, JavaScript(basic), NodeJS, SocketIO, Flutter, Dart.
- **Tools:** Linux, Ubuntu, Git, Github, Tensorflow, Numpy, Pandas, sklearn, Figma, Bootstrap, Matplotlib, MATLAB, Simulink, Autodesk Inventor, Jupyter Notebook, MKDocs, Latex.

## RELEVANT COURSES

- Signals, Systems and Random Processes **(A+ or 11/10)**, Numerical Methods **(A+ or 11/10)**, Data Centric Computing **(A or 10/10)**, Data Structures and Algorithms 1 **(90.75/100, A- or 9/10)**, Probability, Statistics and Data Visualization **(A or 10/10)**, Discrete Mathematics**(A- or 9/10)**, Linear Algebra and Single Variable Calculus **(A or 10/10)**, Ordinary Differential Equations **(A or 10/10)**, Partial Differential Equations **(A or 10/10)**.

  *(A+ or 11/10 grade is awarded for outstanding performance and ranking #1 in the batch.)*

## ACADEMIC ACHIEVEMENTS AND AWARDS

- Recognized as a **Reliance Foundation Undergraduate Scholar** and recipient of the Reliance Foundation Undergraduate Scholarship, showcasing academic excellence and exemplary potential.
- Received grade **A+ or 11/10** in **Signals, Systems and Random processes (SSRP)** and **Numerical Methods** course for exhibiting outstanding performance and ranking #1 in the batch.
- Recognised as a **KVPY (Kishore Vaigyanik Protsahan Yojana) Scholar** with All India Rank **639**.
- Secured an All India Rank of **1348** in JEE (Advanced) and **2538** in JEE (Main).
- Secured the **third place in the Forcasting Stock Prices using Machine Learning** in Hackrush, IIT Gandhinagar's annual hackathon.
- Selected in the **Dean's List of Semester-1 and Semester-2** for exhibiting exemplary academic performance.
- Secured **A grade** in both Elementary and Intermediate drawing examinations.

## POSITIONS OF RESPONSIBILITY

- **Member, Technical Team, Amalthea** (Annual Technical Summit, IIT Gandhinagar) [Aug '23 - Nov '23]
    - Designed and developed a user-centric and interactive UI for the official website of Amalthea, the prestigious annual technical summit of IITGN, enhancing user engagement and ensuring a seamless browsing experience. *Website Link*
    - Collaborated in a team to manage a substantial codebase and played a pivotal role in crafting the website for Amalthea, contributing to its overall success.

- **Member, CDS Technical Team** (Career Development Services (CDS), IIT Gandhinagar) [Aug '22 - Ongoing]
    - Working in a team to design the first resume generator website to generate resumes for students at IITGN according to the format specified by CDS, IITGN. A premitive/current version of the resume generator can be found here. *Website Link*
    - Handled other technical requirements of CDS, IITGN, including revamping the website and testing.

- **Class Representative, Computer Science Engineering** [Nov '23 - Ongoing]
    - Elected as the representative for the Computer Science Engineering department, demonstrating leadership qualities and effective communication skills in representing the interests of a diverse batch of 70 students.

- Played a crucial role as the class representative in fostering cohesive collaboration among peers, facilitating communication between students and faculty, and actively contributing to the smooth functioning of the department during academic activities and events.

- **Member, Technical Council IITGN** [Jun '23 - Ongoing]
  - Contributed expertise and strategic guidance as a valued member of the Technical Council at IITGN, driving innovation and shaping technological advancements to meet organizational objectives.
  - Collaborating with the community to devise and implement cutting-edge initiatives that fostered technical excellence and facilitated interdisciplinary collaboration within the IITGN community.

- **Sponsorship Executive, Amalthea** (Annual Technical Summit - IITGN) [Nov '22 - Jan '23]
  - Contacted and maintained relations with numerous companies for sponsorship.
  - Raised sponsorship opportunities with industries and contributed to the success of Amalthea '22.

- **Head Boy, Thakur International School** [Sep '18 - Sep '19]
  - Elected as Head Boy in a school of 1500+ students, demonstrated strong leadership, organizational skills, and a commitment to fostering a positive academic environment.
  - Effectively represented the student body as the Head Boy, implemented initiatives that promoted student welfare, encouraged student engagement and enhanced the overall educational experience for all students.

## EXTRA-CURRICULAR ACTIVITIES

- Open Source Contributor and enthusiastic about helping build software and solutions for the benefit of the society.
- Competetive Programming (CP) enthusiast. Regular codeforces contest participator. **Codeforces rating 1241 (Pupil)**. *Profile Link*
- **100+ problems** solved on **Leetcode** with **45+ solutions** posted that recieved **350+ views** combined. *Profile Link*
- Member of GRASP, Group for Algorithms and Sport Programming, the CP club of IIT Gandhinagar.
- Member of the Machine Learning Scoiety, IIT Gandhinagar.
- Member of Metis Club: Web and Application Development Club of IIT Gandhinagar, in AY 2022-23. Successfully completed a project- Text Chat Web Application. *Project Link*
- Basketball enthusiast exemplifying teamwork, dedication and fostering competitiveness and promoting physical fitness.
- Passionate about reading and painting, finding joy and inspiration in the realms of literature and art.