# KISHAN VED

Junior Undergraduate

Discipline of Computer Science and Engineering

Indian Institute of Technology Gandhinagar

kishan.ved@iitgn.ac.in

+91 9619319866

GitHub | Website | LinkedIn

## EDUCATION

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|---|---|---|---|
| B.Tech | Computer Science and Engineering, IIT Gandhinagar | 2022-26 | *CGPA*: *9.62* |
| Class XII | Prakash College, Mumbai | 2022 | *85%* |
| Class X | Thakur International School, Mumbai | 2020 | *97.8%* |

## INTERNSHIPS

- **Google Summer of Code , NumFOCUS |** Project Code **|** Verification Letter          *(May 2024 - Aug 2024)*
  *Software Developer*
  - Developed and optimized PyDataStructs' C++ backend by integrating advanced tree data structures like AVL Trees, Red Black Trees, and Cartesian Trees. Technology used: C++, Python, Python-C API, Git, GitHub
  - Achieved an 8-10x increase in execution speed for high-performance computing tasks

## WORK EXPERIENCE : OPEN SOURCE SOFTWARE DEVELOPMENT

- **LFortran & LPython (LLVM-based Compilers) | 15 Merged PRs |** PR links: LFortran, LPython
  - Implemented Fortran intrinsic functions in the C++ backend with comprehensive tests, resolved issues in string slicing and data type handling, and addressed emitted warnings. 10 PRs in LFortran
  - Programmed advanced functions in the NumPy module, developed 3 string APIs. 5 PRs in LPython
- **Smart LATEX Resume Generator with AI, Project Founder and Maintainer |** Website **|** GitHub
  - Ideated and crafted an innovative open-source project for generating professional resumes in LaTeX. Used by over 1000 students to produce high-quality resumes. Made using: HTML, CSS, JS, Groq API
  - Participated in Hacktoberfest 2024 as the project's core maintainer and received 25+ pull requests

## RESEARCH EXPERIENCE

- **FIT-GNN: Faster Inference Time for Graph Neural Networks Using Coarsening |** Paper link **|** GitHub
  *(Under review at a top international A\* Artificial Intelligence research conference)*
  Co-authored a research paper that presents a novel approach to improve the scalability of GNNs

## PROJECTS

- **Pre-Trained LLM for Nepali Language with 80 million parameters |** HuggingFace **|** GitHub **|** Dataset
  Scrapped 10000+ articles, curated 120 GB of raw Nepali data to train 7 tokenizers and a large language model based on Llama architecture that recorded a perplexity of 171 on sentence completion
- **Full FPGA Implementation of 32-bit FSM-based Multi-State MIPS Processor |** GitHub
  Engineered and implemented a 32-bit MIPS processor with a custom ISA and FSM-based pipeline, supporting recursive functions and high-level MIPS assembly on Basys3 FPGA using Verilog and Vivado.

## SKILLS

- **C++, C, Python, Python-C API, Java, HTML, CSS, JavaScript, SQL, Groq API**
- **Ubuntu (Linux), Git, GitHub, MATLAB, PyTorch, Tensorflow, HuggingFace, Numpy, Pandas, Streamlit**

## COURSES - *(11/10 is awarded for exceptional performance and ranking #1 in the batch)*

- **ML / AI / Data Science:** Machine Learning (11/10), Natural Language Processing (11/10), Data Science (10/10)
- **Core Computer Science:** Data Structures and Algorithms (10/10), Computer Architecture (9/10), Signal Systems and Random Processes (11/10), Compilers (ongoing), Databases (ongoing), Computer Networks (ongoing), Operating Systems (ongoing)
- **Mathematics:** Probability, Statistics and Data Visualization (10/10), Numerical Methods (11/10), Linear Algebra and Single Variable Calculus (10/10), Differential Equations (10/10), Discrete Mathematics (9/10)

## ACHIEVEMENTS

- Accomplished Specialist level on Codeforces, earning 1524 contest rating (maximum). Codeforces Profile
- Achieved A+ (11/10) grade in 4 courses. Rank 1 in a class of 250+ students in these courses
- Designated as a Reliance Foundation Undergraduate Scholar (received by top 2000 applicants)
- Attained an elite position with All India rank 1348 in IIT-JEE (JEE Adv), being in the top 0.01% students
- Solved 245+ DSA questions on LeetCode, among the top 8.29% users with a contest rating: 1783. Profile

## POSITION OF RESPONSIBILITY

- **Technical Coordinator, Technical Council, IIT Gandhinagar**          *(May 2024 - Present)*
  Led the IIT Gandhinagar contingent of 60+ members at the InterIIT Tech Meet 13.0 and secured a fantastic performance with 2 trophies - 1 silver and 1 bronze. Organized hackathons, workshops and orientations