Amruth Alur

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EDUCATION:

- **B.Tech in Computer Science and Engineering / 2026**, GPA: 8.25
  VIT Bhopal University, Bhopal
- **12th Grade / 2022**
  Pratibha Junior College, Pune
- **10th Grade / 2020**
  Defense Career Academy

Skills

- **Programming Languages:** Python, C/C++, JavaScript, HTML, CSS
- **Databases:** SQL, MySQL, Oracle DBMS, Vector Databases (e.g., Pinecone, Weaviate)
- **Machine Learning:** Data science fundamentals, model development, deep learning frameworks (TensorFlow, PyTorch)
- **Data Visualization:** Excel, Tableau, matplotlib, seaborn
- **Deployment & Automation:** cloud services (AWS), Git
- **Other:** Object-oriented programming, GUI (Kivy), NLP, RAG technology, document retrieval systems, chatbot development with open-source LLMs, API security
- **Data Structures & Algorithm:** Solved more than 100+ problems across platforms like Leetcode, Hackerrank, GeeksForGeeks and Code360.
- **Technical Proficiencies:**
  - Object-oriented programming
  - Python Libraries, File and database handling
- **General Skills:**
  - Proficient in general tools and AI tools, problem solving
  - Proficient in basic data structures and algorithms
  - Disciplined, focusing on health and overall well-being
  - Tools/Services exploration, workflow optimization
  - Leadership, discipline, and consistency
  - Time management, video editing
  - Learning attitude
  - Effective social communication
  - Team collaboration
  - Analytical thinking
- **Languages:**
  - Fluent in English, Hindi, Marathi, & Kannada

CERTIFICATIONS:

- Python Essentials course from Vityarthi platform
- MATLAB Onramp course
- Developing Your Emotional Intelligence
- Cloud Computing by NPTEL
- Communication Barriers in Gender
- Bits and Bytes of Networking
- CS50 by Harvard University
- Fundamentals of programming Arduino by Sabik Academy

PROJECTS:

1. Customer Segmentation through Unsupervised Learning:

- This project applies unsupervised learning to analyze a rich data set of customer demographics and transactions, aiming to segment customers into distinct groups for targeted marketing and improved business strategies.
- Focuses on clustering techniques to reveal patterns in customer behavior, enabling businesses to enhance their offerings and customer engagement.

2. AI based frame interpolation, video generation and display system for WMS services:
Our project creates an interactive web-based weather visualization tool using:

- MOSDAC Integration: Fetches satellite imagery regularly.
- FILM by Google: Interpolates frames for smooth transitions.
- FFmpeg: Compiles frames into videos.
- Leaflet: Displays videos on an interactive web map.

Potential Impact:

- Government and Environmental Agencies: Real-time weather and climate monitoring.
- WebGIS Developers: Enhanced map applications with live weather visualization.

3. Predicting Rain-Yield Production:

- Developed and compared three machine learning models (random forest, k-nearest neighbors, and linear regression) to predict rice yield in India
- Obtained data from the India Meteorological Department website
- Performed data cleaning and preprocessing using Python and pandas
- Evaluated models using mean absolute error and coefficient of determination, visualized results using matplotlib and seaborn

4. Expense Tracker Project:

- Developed a web-based application using Django framework for tracking income and expenses, setting savings goals, and visualizing financial data in pie charts
- Implemented user authentication, database connectivity, and dynamic rendering of HTML, CSS, and JavaScript files
- Utilized various models to store and retrieve user information

EXTRACURRICULAR:

1. Google Contributor Lvl 18
    - Google Crowdsource VIT Bhopal contributor
2. CyberWarrior Club
    - Active Participant in the club activities
3. Computer Society of India - VIT Student Chapter
    - Active participation in research
4. Adobe GenSolve, TCS CodeVita
    - Participated in the hackathon
5. SIH
    - Participated in the hackathon
6. Video Editing
    - Edited videos at FactsomeTv, a YouTube start-up company using Shotcut and Clipchamp
7. Arohan Event (E-cell Club)
    - Pitched a business idea to business experts and received ratings
8. Mathematics Club (Ramanujan Day)
    - Organized and conducted various activities, including mathematical modeling and quizzes

Summary:

I am Amruth, passionate about problem-solving using C++ and Python. Proficient in Data Structures and Algorithms, I continuously enhance my skills by exploring Python libraries and diverse domains. As a Level 18 contributor on Google Crowdsource, I showcase my commitment to coding in C/C++ and Python through daily contributions.

My technological foundation began in childhood and was further strengthened at a military school, instilling discipline, hard work, and leadership qualities. Graduating with Officer-Like Qualities (OLQs), I bring a unique blend of technical prowess and military-honed skills, including highly effective communication abilities. Well-versed in text formatting and proficient in Markdown and LaTeX, I prioritize efficiency and productivity, creating impactful programs to streamline workflows.

Adept at utilizing open-source tools, I embrace a learning attitude towards all aspects of life, including fitness and mindfulness. I believe in being a "Jack of all trades and master of one." Which always drived me to learn new things easily. Beyond coding, I possess video editing skills, having edited 10-12 videos during an internship at a content creation company. These multifaceted skills position me as an ideal candidate for the internship, combining technical expertise, leadership, and adaptability.