BALASUBRAMANYAM CHILUKALA

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Education

Anurag University   **2022 - 2026**
Bachelor of Technology in Electronics and Communication Engineering(CGPA of 9.11)   *Telangana, India*

Experience

FMCG Gurus   **October 2025 - Present**
Software Development Intern   *Remote, UK*

- Built out a lazy-loading survey visualization platform, utilizing response indexing (with HashMap) to speedup cross-tabulation query from $\mathcal{O}(n^2)$ to $\mathcal{O}(n)$, and rendering time from 8–10 seconds to <2 sec for 10k+ surveys.
- Created client-side demographic segmentation engine complete with browser caching and API-driven, dynamic dropdowns resulting in a 95% server load decline from cached filtering by gender, income and geography.
- Built an interactive dashboard by vanilla JavaScript, including localStorage persistence features to process multi-industry market research data (Weight Loss / Bone Health / Skincare) for Business Insights.

IIIT - Naya Raipur   **May 2025 - July 2025**
Research Intern – Machine Learning & Cybersecurity   *Raipur, India*

- Proposed a hybrid intrusion detection model, TabNet-XGBoost with Borderline-SMOTE and achieved 97% accuracy and 99% precision with CIC-IDS2017 dataset.
- Developed an end-to-end ML pipeline for pre-processing, feature selection, training, and testing over 2.8M+ network traffic samples such that it scales well and generalizes to new data.
- In progress of publishing a research paper in AI based network security focusing the new insights we brought to cybersecurity and intelligent anomaly detection.

Projects

VoiceBridge - Real-Time Meeting Translator | *Python, Google Speech-to-Text, WebSockets, PyAudio, Threading* | Git Link

- Built a 4-thread async pipeline for bidirectional translation that has a 3–6 second end-to-end latency. It has two threads for STT and two threads for Translation/TTS, and the threads can communicate safely through a queue.
- Engineered an echo prevention system that uses 85% text similarity detection and duplicate filtering with a 90% threshold over 20-second windows to get rid of translation feedback loops in real time.
- Implemented auto-reconnection handling for Google Cloud STT 5-minute stream limits with seamless audio resampling (44.1kHz→16kHz) for optimal recognition accuracy.
- Insanely Low-Latency virtual/mic audio processing with near zero-latency streaming TTS/integrated WebSocket with PyAudio to Zoom/Teams/Meet supporting 13+ languages also Indian regional.

Pocket Planner | *Node.js, Express.js, PostgreSQL, HTML, CSS* | Git Link

- Built a scalable backend with Node.js and Express.js, PostgreSQL for optimal financial information storage, and HTML/CSS for intuitive UI to produce a user friction free experience of tracking expenses to 100+ users.
- Created user authentication, expense entry, subscription tracking, and financial goal management allowing efficient monitoring of 500+ expense logs.
- Embedded FinBot (Gemini AI chatbot) handling 1,000+ finance questions monthly, increasing financial knowledge and decisions.

Skills

Languages: Python, Java, HTML/CSS, JavaScript, SQL, C/C++.
CS Subjects: Data Structures and Algorithms(DSA), Object Oriented Programming(OOP), Computer Networks.
Technologies/Frameworks/Libraries: QNX, React.js, Node.js, Express.js, MongoDB, Git, GitHub, **Linux**.
Soft Skills: Leadership, Teamwork, Public Speaking, Communication.

Achievements

- Won in a National level **Hackathon** conducted by Murf AI (among **3,900+** participants) with $500 prize money.
- Highest rating of **1681** and rated **3*** in **CodeChef. Profile Link**
- Reached **Knight level** in **LeetCode** with highest rating of **1870**. **Profile Link**

Roles and Responsibilities

President, AIC club, Anurag University   **August 2023 - Present**

- Led an interactive event to **kickstart DSA** for 1st-year students, introducing them to fundamentals.
- Led a **web development** workshop for 1st and 2nd-year students, covering HTML, CSS, JavaScript, and real-world project insights.