A. Surya Kausthub

Bengaluru, India | +91 93912 46119 | kausthubsurya@gmail.com | Linkedin | Github

Summary

Final-year Computer Science student with strong programming skills in **C++, Java, and Python**. Experienced in building **fast and reliable software systems**, fixing bugs, and improving performance. Interested in working on **embedded systems, automation, and semiconductor technologies**.

Education

- **Bachelor of Technology in Computer Science** CGPA: 8.3/10 (Top 10%)
  Amrita Vishwa Vidyapeetham, Bengaluru *2022 – 2026*

Technical Skills

- **Languages:** Python, Java, C++, SQL
- **Data Analytics:** Pandas, NumPy, Matplotlib, Scikit-learn, Excel (Advanced), Power BI
- **Modeling:** Linear Regression, Classification, Time-Series Forecasting, LSTM
- **Tools & Platforms:** Jupyter, Git, Prometheus, Firebase , PyTorch, Android Studio
- **Concepts:** Object-Oriented Programming, Design Patterns, Distributed Systems, Socket Programming, SQL Server
- **Testing:** Test Automation, Debugging, Profiling, Unit Testing, Manual and Automated QA

Experience

- **Systems Software Intern** Aug 2024 – Jan 2025
  QuantEdge Technologies, Bengaluru
  - Re-architected exchange gateway in **Java + lock-free C++** rings; cut tick-to-trade latency from 38 µs to 11 µs and handled >10 M msgs/day with <0.01 % packet loss.
  - Added **idempotent transaction handler** preventing duplicate order execution—vital for payment reliability.
  - Instrumented eBPF + Prometheus; proactive alerting reduced on-call incidents by 35 %.
- **Mobile App Developer Intern** May 2024 – July 2024
  Zoir Networks, Bengaluru
  - Built UI modules for a real-time **medical streaming app** using **Java** and **Firebase**, enabling patient video updates and live data sync.
  - Reduced **memory usage by 35%** and resolved **3+ ANR issues** on low-end Android devices through profiling and optimization.
  - Implemented offline caching and efficient RecyclerView adapters, improving smoothness across >20 test devices.

Projects

- **MorseVerse: TinyML vs Cloud Morse Translator** — ESP32, TFLite, PyTorch 2024
  * Built offline **TinyML translator on ESP32** and compared it to a **cloud-based LSTM model** using PyTorch.
  * Achieved **77% accuracy** with 0.12s latency on-device; 5× faster than cloud baseline (80.89s).
  * Processed 40k Morse sequences; integrated **TTP223B sensor** for real-time tactile input.
  * Targeted use cases in **assistive tech**, **emergency response**, and **IoT healthcare**.
- **Low-Resource Telugu–Hindi Translation LLM** — PyTorch, Fairseq, BART, ONNX 2024
  * Fine-tuned **seq2seq transformer models** (BART, mBART) on 100k bilingual Telugu–Hindi pairs using **Fairseq**.
  * Engineered a **custom subword tokenizer** that improved BLEU score by **+18%** over standard SentencePiece.
  * Benchmarked edge inference vs. cloud GPU, demonstrating **5× cost savings** and real-time translation with **<150 ms** latency.
- **Smart Health Tracker App** — Android, Java, Firebase 2024
  * Built an Android app for real-time **GPS-based activity tracking** and health status monitoring; used Firebase for auth and data.
  * Applied MVVM with ViewModel, LiveData, and Room DB; ensured smooth UI performance under >1000 user entries.
  * Achieved **30% faster screen transitions** after optimizing RecyclerView and background syncs.

Certifications & Achievements

- **CodeChef 4 (1901)** & **Codeforces Expert (1775)** — Top ∼2–5%. [CC] [CF]
- **IBM: ML with Python (Honors)** — Jul 2024. [Cert]
- **IBM: Deep Learning with Keras** — Jul 2024. [Cert]

Research Publications

- **SecureBidPro: A Robust Online Auction System** — IEEE Conference, 2023.
- **Quantum-Secured Alerts in Smart Grids** — IEEE ICET 2025.
- **Smart Health Tracker with GPS** — CRM 2025.

Leadership & Mentoring

- Conducted Distributed Systems Bootcamp (100+ participants)
- Mentored juniors in Android app development and code optimization
- Reviewed Java/Kotlin projects for efficiency and bug prevention