Ankit Chaurasia

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Professional Summary

Senior Software Engineer with extensive experience leading high-performing, delivery-focused full-stack engineering teams. Strong backend development expertise. Proven record in driving technical strategy and architectural vision. Skilled in mentoring engineers, hiring, and building teams. Experienced in cross-functional execution and open-source contributions. Specialized in Apache Airflow, data engineering, LLMOps, and scalable backend systems, including REST APIs, microservices, databases, and distributed systems. Over 130 open source contributions to Apache Airflow. Made key contributions to Airflow 3.0 development. Spoken at Airflow Summits and delivered a keynote at Microsoft IDC Hyderabad on advanced data engineering and LLMOps.

Skills

- **Core:** Data Structures & Algorithms, System Design, Data Engineering, LLMOps, Large Language Models, REST APIs, CI/CD
- **Languages:** Python (Proficient), C++ (intermediate), JavaScript, PHP, C, Java, Bash, LaTeX
- **Frameworks:** Apache Airflow, Django, FastAPI, Flask, LangChain, OpenCV, OpenLineage
- **Databases:** PostgreSQL, MySQL, MongoDB, Weaviate
- **Cloud & Infrastructure:** AWS, Azure, GCP, Docker
- **Tools:** Git, GitHub Actions, CircleCI, Swagger, Postman
- **Leadership:** Team Management, Technical Hiring, Mentoring, Architecture Reviews, Agile

Experience

- **Senior Software Engineer, Astronomer - Remote, India**   Jan 2022 - Present

  I have been leading several high-performing, delivery-focused full-stack engineering teams while operating as a senior individual contributor - driving technical strategy, architecture vision, cross-functional execution, mentoring engineers, and open-source contributions.

  - Set technical strategy and spearheaded key features in Apache Airflow 3.0 - AIP-83 (directly support new use cases, such as model training and generative AI inference), AIP-72 (for multi-cloud and multi-language support), influencing cross-organizational technical direction; built a Ruff linter and config tool for seamless 2.x to 3 upgrades. These contributions were pivotal to Astronomer's $93M Series D funding.
  - Led development of Astro Runtime (Astronomer's production-grade Airflow distribution), managing 80% of releases with complex Airflow dependencies to ensure Day-0 customer support; engineered a new logging module to handle Airflow task logs via HTTP endpoints, slashing Docker image size by 80%.
  - Built Ask-Astro, an open-source chatbot for Airflow and Astronomer, using generative AI; orchestrated documentation ingestion with Airflow and vector database embedding to enable real-time retrieval with feedback loops, showcasing practical LLMOps.
  - Mentored and developed engineers across multiple teams, providing technical guidance, architecture reviews, and career development support; established organization-wide engineering best practices and standards for AI coding assistants (Cursor, GitHub Copilot) to boost developer productivity.
  - Improved engineering efficiency by instituting nightly build workflows to catch regressions early (reducing manual testing by 90%) and driving organization-wide process improvements across engineering teams.
  - Developed apache-airflow-providers-transfers, a unified interface replacing 100+ specialized data transfer operators, and co-created the Astro Python SDK to streamline ETL development by abstracting Airflow boilerplate; these frameworks are now adopted organization-wide and by the broader Airflow community.
  - Enabled deferrable mode for 80+ Airflow operators/sensors, freeing up worker slots during external waits (via lightweight async triggers) and reducing compute costs by up to 70%.
  - Impactful 130+ Open Source contributions to Apache Airflow with new features, bug fixes, and documentation.

- **Senior Software Engineer, Wadhwani AI - Mumbai, India**   Jan 2019 - Dec 2021

  Joined as first engineer and built the engineering organization from scratch; hired and scaled a 25+ member engineering team through technical interviewing and team building; set technical strategy and architectural vision for the organization while leading high-performing, delivery-focused teams and driving clarity with product and program teams

  - Hired and built the engineering team from scratch, conducting technical interviews and establishing hiring standards; set technical strategy and architectural vision for the organization, defining technology stack, development practices, and infrastructure standards that scaled across multiple projects.
  - Designed, developed and deployed a pest management system which runs a pytorch based model on the phone/cloud to identify the harmful pests, alert farmers about infestation and reduce crop loss in cotton farming. Currently being used by over 11,000 farmers.

- Part of the only Indian team to win a \$2 million grant in the Google AI Impact Challenge, which recognized just 20 teams globally and was featured at Google I/O and Google for India.
- Developed pipeline for data collection ODK, annotation LabelMe, model deployment (online on-cloud and offline on-device), analytics dashboard along with open APIs for third-party integration and Django backend.
- Built annotation studio platform orchestrating annotation jobs across multiple vendors using Apache Airflow, FastAPI, and React, streamlining data management and scheduling workflows.
- Established technical architecture and developed reusable micro-services (authentication, geospatial directory, emailing) using Django, AWS, and OAuth 2.0, serving multiple teams across the organization and eliminating duplicate infrastructure; these services became foundational components for all engineering teams.
- Reduced video buffering time by 75% on open-source CVAT annotation tool by implementing Redis caching during data ingestion.
- Built COVID-19 mobility dashboard integrating COVID-19 Mobility Data Network and Facebook Data For Good, enabling 11 state governments in India to optimize emergency protocols based on epidemic spread patterns.

- **Software Development Engineer, DreamVu - Hyderabad, India**   Dec 2017 – Jan 2019
  - Developed end to end modular video acquisition and processing software for VR/AR and machine vision applications(for in-house camera) along with SDK for third party integration which helped to secure an angel funding of \$ 0.5 million from SRI capital.

- **Software Engineer, AapkaPainter - Bangalore, India**   Aug 2016 – Nov 2017
  - Built CRM, task management, and sales automation systems; integrated Razorpay payment gateway processing 10M+ INR monthly; developed Flask API for automated floor plan measurement extraction using computer vision.

Open Source Contributions

- apache-airflow, ask-astro, ruff, apache-airflow-provider-transfers, astro-sdk, astronomer-providers

Talks and Publications

- Beyond Execution Dates: Empowering inference execution and hyper-parameter tuning with Airflow 3 | Apache Airflow Summit 2025 Seattle
- Seamless Airflow Upgrades: Migrating from 2.x to 3 | Apache Airflow Summit 2025 Seattle
- Mastering Advanced Dataset Scheduling in Apache Airflow | Apache Airflow Summit 2024 San Francisco
- Data pipelines from ETL to ML to LLM: Powered by Apache Airflow | Microsoft IDC Hyderabad 2023
- Love for Writing Deferrable Operators — Why and How to Defer? | Apache Airflow Summit 2022
- Pest management in cotton farms: an AI-system case study from the global South | KDD 2020 [Research Paper]
- A real-time travel planning algorithm via multimodal transport network for ATIS | B.Tech thesis 2016 [Thesis]

Education

- **B.Tech. Computer Science and Engineering**   2012–2016
  National Institute of Technology Warangal, Warangal, India
- **Technology Entrepreneurship Programme**   2014–2016
  Indian School of Business, Hyderabad, Hyderabad, India
- **Grade 12**   2011
  SOS Hermann Gmeiner Higher Secondary School, Bharatpur, Nepal

Achievements

- **Winner, Design Challenge, ISB Hyderabad** (presentation) – Founded award-winning startup building real-time position reporting system for buses without GPS; pitched to Telangana IT minister and received seed funding offer from TSRTC.

Extracurricular and Leadership

- **Coordinator, Quality Control & Management, Technozion 15** (Aug–Jan 2016) – Secured ISO 9001:2008 certification and UNESCO patronage for South India's second largest technical fest; generated 1.5Cr INR (\$200k) revenue; managed 150+ events across coordination, quality control, and risk management.
- **Teach for India** – 70+ hours of teaching community service in local underrepresented schools.