

# ANKIT CHAURASIA

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## EXPERIENCE

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### Senior Software Engineer, Astronomer

Remote, India

• *Open Source Contributor - Apache Airflow, Project lead*

*Jan 2022 - Present*

- Spearheaded key features in [Apache Airflow 3.0 release](#), pivotal to Astronomer's [\\$93M Series D momentum](#):
  - \* [AIP-83](#): Independently designed and developed the proposal enabling Airflow to directly support a variety of new use cases, such as model training and generative AI inference, without hacks or workarounds.
  - \* Architected and built [ruff linter](#) and [configuration tools](#) enabling Airflow users worldwide to seamlessly upgrade from 2.x to 3.
  - \* Contributed to [AIP-72](#), migrating Airflow to a client-server architecture for multi-cloud deployments and multi-language support so Airflow can run anywhere and in any language.
- Led development of [Astro Runtime](#) (Astronomer's production ready Airflow distribution that bundles Airflow, core providers, and dependencies into standardized, secure Docker images with exclusive features, enabling users to focus on pipelines over infrastructure.)
- Designed and engineered the `astronomer-providers-logging` module to handle task logs in Airflow via HTTP endpoints, reducing the Astro Runtime Docker image size by 80% by removing heavy providers.
- Managed 80% of [Astro Runtime releases](#) with complex dependencies on Apache Airflow, providing Day Zero support for Astronomer customers.
- Pioneered nightly build releases to catch bugs early in Airflow/Astro, reducing manual regression testing by 90%.
- Designed and built [Ask-Astro](#) — an open-source chatbot for Apache Airflow/Astronomer Q&A, using Airflow to orchestrate data ingestion, embed content into a vector database, and incorporate a feedback loop (source code on [GitHub](#)).
- Architected and implemented [apache-airflow-providers-transfers](#) for Airflow, providing a single agnostic interface to move data between sources and destinations, replacing the need for 100+ specialised transfer operators.
- Co-designed and developed the [Astro Python SDK](#) for rapid ETL development in Airflow, abstracting away DAG boilerplate so engineers can focus on business logic.
- Implemented deferrable mode for 80+ Airflow operators/sensors, freeing worker slots while waiting on external events and reducing compute costs by up to 70%.
- Delivered presentations at Apache Airflow Summit (2022—2025) and keynote at Microsoft IDC Hyderabad on advanced Airflow topics.
- Contributed extensively to Apache Airflow (core and providers) with new features, bug fixes, and documentation improvements.
- Established guidelines and guardrails for using generative AI coding tools (Cursor, GitHub Copilot) to boost developer productivity.

### Senior Software Engineer, Wadhwani AI

Mumbai, India

• *All-Rounder (Design, Architect, Develop) – Backend, Frontend, Partner Integration*

*Jan 2019 - Dec 2021*

- Hired and led engineering teams across multiple projects in the healthcare and agriculture domains.
- Integrated pest management solution
  - \* 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.

- \* Developed data pipeline for data collection using [ODK](#), annotation using [LabelMe](#), model deployment (online on-cloud and offline on-device), analytics dashboard along with open APIs for third-party integration and Django backend.
- \* Part of the team that won a \$2 million grant as part of the [Google AI Impact Challenge](#) offered to only 20 teams worldwide, becoming the only team from India to do so and featuring in Google I/O and Google for India.
- o Led engineering effort for annotation studio which is data(artefacts and annotation) management and job orchestration platform to manage, schedule and orchestrate annotation job across multiple annotation vendors using Apache Airflow, FastAPI and React. The annotations are used for model training and performance decisions.
- o Reduced the video buffering time by 75% on open-source [CVAT](#) annotation tool by adding Redis cache to cache the frames during data ingestion.
- o Engineered various micro-services being used by multiple teams with over 0.5m event till date like authentication and authorization service, geospatial directory and emailing-service using Django, AWS SES, OAuth 2.0, AWS cognito and Fargate.
- o Built a covid-19 mobility dashboard integrating with [COVID-19 Mobility Data Network](#) and [Facebook Data For Good](#) which enabled 11 state government authorities in India with actionable insight to optimize emergency protocols in line with epidemic spread and identifying high movement areas.

#### • **Software Development Engineer, DreamVu**

Hyderabad, India

*Prototype building, Research and Deployment*

*Dec 2017 – Jan 2019*

- o 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

*All-Rounder (Design, Architect, Develop) – Backend, Frontend*

*Aug 2016 – Nov 2017*

- o 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.

#### • **Software Intern, Almagest**

Bangalore, India

*Internship*

*March 2015 – June 2015*

- o Built scheduled ride booking web app with notifications; developed web crawler for alumni news extraction using BeautifulSoup and regex; implemented OpenCV-based face detection system to extract alumni photos from archived documents.

## SKILLS

- **Core Concepts:** Data Structures and Algorithms, Object-Oriented Programming, System Design, Data Engineering, LLMops, Large Language Models (LLM), Conversational AI, Geo-spatial Data, REST APIs, CI/CD, Release Management
- **Languages:** Python (Proficient), C++ (intermediate), JavaScript (intermediate), PHP (intermediate), C (Prior Experience), Java (Prior Experience), Bash,  $\text{\LaTeX}$
- **Frameworks and Libraries:** Apache Airflow, Django, FastAPI, Flask, LangChain, OpenCV, OpenLineage, Apache Livy
- **Databases:** PostgreSQL, MySQL, MongoDB, Weaviate, SQL
- **Cloud and Infrastructure:** AWS, Google Compute Engine, Azure, Docker, OAuth 2.0
- **DevOps and Tools:** Git, GitHub Actions, CircleCI, Swagger, Postman
- **Leadership:** Team Management, Technical Hiring, Mentoring, Stakeholder Management, Technical Strategy, Architecture Reviews, Process Improvement, Vendor Management, Cross-functional Collaboration, SDLC, Agile, Sprint Planning

## OPEN SOURCE CONTRIBUTIONS

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- [apache-airflow](#), [ask-astro](#), [ruff](#), [apache-airflow-provider-transfers](#), [astro-sdk](#), [astronomer-providers](#)

## TALKS AND PUBLICATIONS

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- [Beyond Execution Dates: Empowering inference execution and hyper-parameter tuning with Airflow 3](#)  
**Ankit Chaurasia, Rahul Vats** | Apache Airflow Summit 2025 Seattle
- [Seamless Airflow Upgrades: Migrating from 2.x to 3](#)  
**Ankit Chaurasia** | Apache Airflow Summit 2025 Seattle
- [Mastering Advanced Dataset Scheduling in Apache Airflow](#)  
**Ankit Chaurasia** | Apache Airflow Summit 2024 San Francisco
- [Data pipelines from ETL to ML to LLM: Powered by Apache Airflow](#)  
**Ankit Chaurasia, Vikram Koka** | Microsoft IDC Hyderabad
- [Love for Writing Deferrable Operators — Why and How to Defer?](#)  
**Ankit Chaurasia** | Apache Airflow Summit 2022
- [Pest management in cotton farms: an AI-system case study from the global South](#)  
Aman Dalmia, Jerome White, **Ankit Chaurasia**, Vishal Agarwal, Rajesh Jain, et al. | KDD 2020
- [A real-time travel planning algorithm via multimodal transport network for ATIS](#)  
**Ankit Chaurasia**, Karnika Agarwal, Kshitij Kadane | B.Tech thesis 2016

## EDUCATION

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

## ACHIEVEMENTS

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- **Winner Design Challenge, ISB Hyderabad** Hyderabad, India  
*User Research, Design, Development, Partner Integration* ([presentation](#))
  - Founded an award winning startup which built a real time position reporting system for buses without using GPS.
  - Pitched our idea to Telangana IT minister and received a seed funding offer from TSRTC(Telangana State Road Transport Corporation)

## EXTRACURRICULAR AND LEADERSHIP

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- **Coordinator, Quality Control And Management Technozion 15** Aug – Jan 2016
  - Got ISO 9001:2008 certification and UNESCO patronage for Technozion 15, South India's second Largest Technical fest. The fest saw a revenue of over 1.5Crore INR( 200kUSD) from sponsorships and events.
  - Was responsible for leading, coordination, quality control, risk management, blogging and management for various 150+ events during Technozion 15
- More than 70 hours of teaching community service in local underrepresented schools as part of Teach for India.