

# ANKIT CHAURASIA

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## EXPERIENCE

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- **Senior Software Engineer, Astronomer** Remote, India  
Jan 2022 - Present  
*Open Source Engineering - Apache Airflow*
  - Contribute to the open-source [\[apache-airflow\]](#).
  - Led the development of [\[Ask-Astro\]](#), Astronomer's innovative open-source LLM application, integrating Apache Airflow with advanced LLM technology to create a versatile chatbot and knowledge interface, leveraging Retrieval Augmented Generation and Weaviate vector store for enhanced AI-driven query response capabilities in Airflow and Astronomer domains.
  - Working on [\[Universal Transfer Operator\]](#) that simplifies how users transfer data from a source to a destination using Apache Airflow. It offers a consistent agnostic interface, improving the users' experience so they do not need to use explicitly specific providers or operators. This operator reduces the need for 100+ transfer operators to the single operators on Airflow.
  - Design and contribute to [\[Astro Python SDK\]](#) which is a Python SDK for rapid development of extract, transform, and load workflows in Apache Airflow. The purpose of the SDK is to remove the complexity of writing DAGs in Apache Airflow, particularly in the context of Extract, Load, Transform (ELT) use cases. This enables pipeline authors to focus more on writing business logic in Python, and less on setting Airflow configurations.
  - Implemented Apache Airflow Providers containing Deferrable Operators Sensors. More details can be found at: [\[Astronomer Providers\]](#)
  - Talk on *Love for writing deferrable operators. Why and how to defer?* in airflow summit 2022. Talk [\[video-recording\]](#)
- **Senior Software Engineer, Wadhwani AI** Mumbai, India  
Jan 2019 - Jan 2022  
*All-Rounder (Design, Architect, Develop) – Backend, Frontend, Partner Integration*
  - Hired and leading 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[\[ODK\]](#), annotation [\[LabelMe\]](#), model deployment (online on-cloud and offline on-device), analytics dashboard along with open APIs for third-party integration and Django backend.
    - \* Part of the team that won a \$2 million grant as part of the Google AI Impact Challenge [\[link\]](#) 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.
  - Leading 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.
  - Reduced the video buffering time by 75% on open-source [CVAT](#) annotation tool by adding Redis cache to cache the frames during data ingestion.
  - 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.

- 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*
  - 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*
  - Joined as a founding team member and developed the Customer Relationship Management(CRM) and task management system along with sales and marketing automation platform using Codeigniter.
  - Created the customer and vendor transaction module by integrating with payment gateway (Razorpay). Transaction of more than INR 10 million on monthly basis across the user base.
  - Built a Flask Restful API to extract room and wall measurements from floor plan images using Google Cloud Vision, Ocropus and Tesseract in parallel.
- **Software Intern, Almabase** Bangalore, India  
*Internship* *March 2015 – June 2015*
  - Developed uber ride remainder web app to book the cab at a specified date-time and notify the user.
  - Web crawler to crawl relevant news using newspaper API, python3 along with beautifulsoup and regular expression matching to fetch alumni and their news on the web.
  - Successfully extracted single pictures of alumni along with name from scanned archived alumni documents using Viola Jones algorithm for face detection. Used Cascade Classifier class to detect faces in video stream in OpenCV.

## SKILLS

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- **Concepts:** Data Structures and Algorithms, Large Language Models (LLM), Databases, REST, System Design, Data pipelines, Geo-spatial data, OS concepts, DevOps, SEO, SEM, Deployment, Authentication and Authorization, Version Control
- **Languages:** Python[proficient], C++[intermediate], C[intermediate], Java [beginner], PHP[intermediate], JavaScript[intermediate], matlab[intermediate], Bash, L<sup>A</sup>T<sub>E</sub>X
- **Framework and Libraries:** Apache Airflow, Django, Langchain, FastAPI, Flask, OpenCV, AWS Sagemaker, AWS Fargate, WordPress, Codeigniter, OAuth 2.0, AWS Cognito
- **Databases:** SQL, MySQL, MongoDB, Weaviate
- **Miscellaneous:** Git, Github Actions, Docker, AWS, Google Compute Engine, Swagger, Postman, Apache2, NGINX, HTML, CSS
- **Project management and hiring:** Team management, SDLC, Agile, Waterfall, Sprint planning, Hiring, On-boarding and mentoring team

## OPEN SOURCE CONTRIBUTIONS GITHUB REPOSITORIES

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- [\[apache-airflow\]](#)
- [\[ask-astro\]](#)
- [\[universal-transfer-operator\]](#)
- [\[astro-python-sdk\]](#)
- [\[astronomer-providers\]](#)

## PUBLICATIONS/MANUSCRIPTS

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- **Pest management in cotton farms: an AI-system case study from the global South** [\[paper\]](#)  
*Aman Dalmia, Jerome White, Ankit Chaurasia, Vishal Agarwal, Rajesh Jain, et al.*  
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2020
- **A real-time travel planning algorithm via multimodal transport network for ATIS** [\[thesis\]](#)  
*Ankit Chaurasia, Karnika Agarwal, Kshitij Kadane*  
Supervisor: Dr. Rashmi Ranjan Rout, 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* [\[link\]](#)
  - 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.