Anirudh Prabakaran

Atlanta, GA
anirudhprabakaran7@gmail.com

anip.me
linkedin

EDUCATION

MS in Computer Science | Georgia Institute of Technology | GPA: 4.0/4.0 **Aug 2021 — May 2023**
- **Specialization:** Machine Learning
- **Courses:** Graduate Algorithms, Computer Vision, Machine Learning, Natural Language, Deep Learning, Artificial Intelligence, Intro to Health Informatics, Data and Visual Analytics
- **Graduate Teaching Assistant:**
  - CS 7641: Machine Learning (Fall 2022, Spring 2023)
  - CS 4400: Introduction to Database Systems (Fall 2021, Spring 2022)

B.Tech in Computer Science | National Institute of Technology - Tiruchirappalli | GPA: 8.18/10.00 **Jul 2014 — May 2018**
- **Courses:** Data Structures and Algorithms, Operating Systems, Database Management Systems, Computer Networks.

WORK EXPERIENCE

Meta **May 2022 — July 2022**
Software Engineer Intern Menlo Park, CA
- Worked on end-to-end ML pipelines to make recommendations better (led to an increase in story/reel production with music) and faster (reduced update frequency from 24hrs to 3hrs) on the Music Browser used across Facebook.
- My work involved multiple iterations of building trending and popular music generators, writing Dataswarm (Airflow) pipelines, training large-scale SparseNN models, performing offline evaluations/visualizations and finally A/B testing to users globally.

Iron Mountain **Sep 2020 — Jun 2021**
Machine Learning Engineer Bangalore, India
- Developed a human-in-loop, event-driven pipeline on GCP for Document Understanding tasks, resulting in significant savings and successful replication across various company verticals. This system now holds a utility patent.
- Demonstrated strong collaboration and communication skills by working closely with product teams to understand business requirements, presenting weekly analyses, and maintaining, deploying, and designing end-to-end pipelines.

Samsung Research Institute Bangalore **Jun 2018 — Aug 2020**
Senior Software Engineer Bangalore, India
- Demonstrated strong algorithmic competency, earning the prestigious Samsung professional certification and contributing significantly to research, commercialization, and debugging efforts for Home Monitoring solutions integrated with SmartThings.
- Led a research proposal on identifying anomalous segments in surveillance videos using C3D for spatiotemporal feature extraction, successfully presenting the paper at an IEEE conference. [link]
- Developed an SDK for IoT devices to enable efficient peer-to-peer communication using WebRTC, reducing latency, server costs, and privacy concerns, while integrating the solution on devices such as surveillance cameras and robot vacuum cleaners.
- Received a spot award for developing an emergency home audio monitoring engine to detect common household sounds, successfully integrating it into the Galaxy home assistant and presenting the innovation at a workshop in Korea.[link]

RECENT PROJECTS

Exploratory Video Analytics [project link] **2023**
- Developed and contributed to EVA, an open-source AI-relational database with support for deep learning models, enabling efficient analysis of both structured and unstructured data, integrating a range of pre-built models for various data types and applications.
- EVA supports a user-friendly, SQL-like interface to query over videos or images, with optimizations inspired by relational databases, such as function caching, sampling, and cost-based operator reordering, to accelerate Deep Learning pipelines.

Interactive Twitter Bot Detection through Network Graph Analysis [report link] **2023**
- Developed an interactive Twitter bot detection system that combines NLP, network graph analysis, and expert human judgment, leveraging Twibot datasets to train graph embedding models and execute hierarchical clustering.
- Designed a user-friendly interface to display t-SNE visualizations of unlabeled clusters, enabling users to make informed decisions on bot status by reviewing account profiles, enhancing overall detection precision and labeling speed.

Emoji Category and Position Prediction in Text [report link] **2022**
- Constructed a robust dataset of 350K tweets, scraping and cleaning emoji information along with character and word level index.
- Implemented a Bi-LSTM network with pre-trained GloVe embeddings for predicting the type and position of an emoji given a text. Achieved 62% accuracy in emoji prediction (modeled as a top-10 classification problem) and a 78% accuracy in position prediction.

TECHNICAL SKILLS

Languages and Tools: Python, C++, SQL, JavaScript, PyTorch, Docker, Git, GCP, Linux, PySpark

VOLUNTEER AND EXTRA-CURRICULAR

- **Teaching Volunteer, Make a Difference:** Taught classes weekly for school kids belonging to various shelters in Bangalore. [link]
- **Leadership, Undergrad:** Headed publicity and marketing for cultural and departmental events. Part of chess team and coding club.