

# Pratik Sanghavi

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## EDUCATION

### University of Wisconsin-Madison

August 2023 - Present

*Masters of Science in Computer Science*

*Madison, WI*

- CGPA: 4/4
- Relevant Courses: Artificial Intelligence, Database Management Systems, Operating Systems

### BITS Pilani

August 2017 - July 2021

*Bachelor of Engineering in Electronics and Communications, Minors in Finance*

*Goa, India*

- CGPA: 9.05/10
- Relevant Courses: Computer Architecture, Computer Networks, Digital Signal Processing, Image Processing

## PROFESSIONAL EXPERIENCE

### Quantiphi Analytics Pvt. Ltd.

September 2021 - March 2023

*Machine Learning Engineer*

*Mumbai, India*

- Led a team of 8 ML Engineers to implement a computer vision solution to reduce mispicks in warehouses by identifying and tracking Stock Keeping Units (SKUs) placed on a pallet jack.
  - \* Responsible for communication with client on data collection, model training and SKU coverage
  - \* Optimized tagging pipeline to slash tagging effort by 80% by integrating prioritization logic.
  - \* Experimented with 20+ detection and classification models selecting for precision and latency.
  - \* Improved robustness of tracking algorithm to anomalies leading to 12% rise in accuracy and  $\leq 15$ ms latency
- Improved predictor module of an order recommendation engine driving up prediction accuracy by 5% and decreasing training time by 60%.
- Prepared initial product proposal for a supply planning solution for warehouses.

### Apple (India)

January 2021 - July 2021

*Control Plane Developer Intern*

*Bengaluru, India*

- Incorporated scenarios to ensure data continuity in handover and redirection between the LTE and NR RATs in various modes of connectivity and fixed 8 bugs bolstering system reliability.

### BITS Pilani, KK Birla Goa Campus

September 2020 - December 2020

*Teaching Assistant-Communication Systems*

*Goa, India*

- Supervised doubt and lab sessions for 80+ students over the course of the semester
- Prepared lab demonstration videos illustrating the use of Simulink for experiments in the course.

## PROJECTS

### Log Structured File System

November 2023 - December 2023

- Engineered a single threaded log based file system with FUSE on C
- Enabled multi-level directories, file sizes upto 4GB, support for numerous file-system operations and enhanced performance via log compaction and caching

### Student Management Portal

April 2023 - June 2023

- Designed and developed a full-stack (SIO) application for managing 300+ students for a music academy
- Effected features for turn and fee management, daily schedule and weekly fee reminders

### National Anthem Clustering

January 2023 - February 2023

- Created a batch scraper to retrieve audio and lyrics of national anthems and preprocessed and engineered features for audio and text data
- Bundled countries based on the resulting feature matrix with [k-means clustering](#)
- Chained prompts using langchain and pinecone to summarize national anthem lyrics based on relevant filter criteria

### Multi-Label Genre Classification

December 2021-January 2021

- Processed the CMU Movie Summary corpus and fine-tuned a [BERT model](#) for genre classification achieving a precision score of 82% on test data
- Deployed the model using TensorFlow Serving

### Verilog implementation of a pipelined processor

March 2020 - May 2020

- Designed and simulated a [4-stage pipelined processor](#) to execute a subset of the RISC-V ISA on Verilog improving throughput by 400% vis-a-vis a [single cycle processor](#) and synthesized a functional model on Quartus Prime

## LEADERSHIP AND ACHIEVEMENTS

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### **Mentor, Quantiphi Analytics Pvt Ltd**

January 2022 - October 2022

- Guided 20+ interns in learning and contributing to 10+ projects across healthcare and insurance verticals

### **Arts N Deco Creative Head, BITS Pilani**

May 2019 - April 2020

- Organised brainstorming sessions for 90+ students for iterating through ideas for [artworks](#) for college festivals and department activities as well as creating promotional videos and posters for new student inductions and events

## SKILLS

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**Languages/Database:** C, C++, Python, JavaScript, MATLAB, Verilog, HTML, CSS, MySQL, MongoDB, Firestore

**Libraries and Frameworks:** [Tensorflow](#), PyTorch, OpenCV, Flask, Django, TypeScript, Node, React, Express, Pandas, NumPy

**Software & Tools:** Premiere Pro, AutoCAD, Clip Studio Paint, Quartus Prime, Cadence Virtuoso

**Cloud:** [AWS](#), [Azure](#), GCP, [Snowflake](#)