

# Ajinkya Prabhu

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## EDUCATION

### Carnegie Mellon University

*Masters in Mobile and IoT Engineering*

- Intro to Computer Systems - 15513

Pittsburgh - Pennsylvania

May 2022 – Dec 2023

### Vellore Institute of Technology

*Bachelors in Electronics and Communication Engineering*

- GPA - 9.1/10.0
- specialization in IoT and Sensors

Vellore - Tamil Nadu

July 2016 – June 2020

## WORK EXPERIENCE

### BlackRock

*Analyst (Software Engineer I)*

Gurugram, India

Jan 2020 – July 2022

- Collaborated with a team of five software engineers to develop a data lake called RBOR (Regulatory Book of Records) with schema management and automatic ingestion on the Cloudera Data Platform
- Increased adoption of RBOR platform across BlackRock
- Spearheaded ingestion of securities data; ingested **600GB/week with 293 columns (100M rows)**
- Boosted batch query performance by an **order of magnitude**

### Mantra Labs

*Software Engineering Intern*

Bangalore, India

May 2018 – June 2018

- Analyzed I2S protocol in its application to a solid-state microphone on the BeagleBone Black
- Devised a facial recognition system to recognize unknown faces in security cameras using FaceNet algorithm

## RESEARCH

### ITC

*Student Researcher*

Vellore Institute of Technology - Vellore

May 2019 – July 2019

- Collaborated with a team of 5 students to develop a prototype that detects defects in incense sticks
- Developed a Convolutional Neural Network in tandem with an image processing pipeline for object detection and classification
- Achieved an accuracy of **82%** while maintaining throughput of **five sticks per second**

### Creation Labs - Team AutoZ

*Student Researcher*

Vellore Institute of Technology - Vellore

Sept 2018 – Nov 2019

- Collaborated with a team of 10 students to develop an autonomous mobile robot to compete in IGVC competition
- Led development of sensor localization and electrical drive subsystem

## PROJECTS

### Dynamic Memory Allocator | [GitHub](#)

- Developed a malloc package implementation that achieved a peak performance of **74%** utilization while maintaining a throughput of **~ 9000Kops**

### Tiny Shell | [GitHub](#)

- Implemented a shell application using UNIX fork and signal handling

### HTTP Proxy | [GitHub](#)

- Designed a concurrent web proxy with thread-safe caching between concurrent requests

### Contributor - Vega | [GitHub](#)

- Developed distributed set subtract operation in Rust

## SKILLS

**Programming Languages:** Advanced - Python, Java, Scala; Intermediate: C, C++, SQL, Rust; Basic: MATLAB

**Technologies:** Git, Arduino, ROS, LaTeX, Spark, TensorFlow, PyTorch, Hadoop, Linux

**Languages:** Fluent - English, Hindi, Marathi

## PUBLICATIONS & PATENTS

**Publication:** Image Compression and Reconstruction Using Encoder-Decoder Convolutional Neural Network - Prabhu A., Chowdhary S., Narayanan S.J., Perumal B.

**Patent:** A scanning device for inspecting and sorting high aspect ratio objects and method thereof - N202041047428

## AWARDS & ACHIEVEMENTS

**Merit Scholarship:** Awarded merit Scholarship for exceptional academic performance for 2 consecutive years