

# Ajinkya Prabhu

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## EDUCATION

<b>Carnegie Mellon University</b> <i>Masters in Mobile and IoT Engineering</i> <ul style="list-style-type: none"><li>• Intro to Computer Systems - 15513</li></ul>	Pittsburgh - Pennsylvania May 2022 – Dec 2023
<b>Vellore Institute of Technology</b> <i>Bachelors in Electronics and Communication Engineering</i> <ul style="list-style-type: none"><li>• GPA - 9.1/10.0</li><li>• specialization in IoT and Sensors</li></ul>	Vellore - Tamil Nadu July 2016 – June 2020

## WORK EXPERIENCE

<b>BlackRock</b> <i>Software Engineer I</i> <ul style="list-style-type: none"><li>• 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</li><li>• Increased adoption of RBOR platform across BlackRock</li><li>• Spearheaded ingestion of securities data; ingested <b>600GB/week with 293 columns (100M rows)</b></li><li>• Boosted query performance by <b>60 times</b></li></ul>	Gurugram, India Jan 2020 – July 2022
<b>Mantra Labs</b> <i>Software Engineering Intern</i> <ul style="list-style-type: none"><li>• Analyzed I2S protocol in its application to a solid-state microphone on the BeagleBone Black</li><li>• Devised a facial recognition system to recognize unknown faces in security cameras using FaceNet algorithm</li></ul>	Bangalore, India May 2018 – June 2018

## RESEARCH EXPERIENCE

<b>ITC</b> <i>Student Researcher</i> <ul style="list-style-type: none"><li>• Collaborated with a team of 5 students to develop a prototype that detects defects in incense sticks</li><li>• Developed a Convolutional Neural Network in tandem with an image processing pipeline for object detection and classification</li><li>• Achieved an accuracy of <b>82%</b> while maintaining throughput of <b>five sticks per second</b></li></ul>	Vellore Institute of Technology - Vellore May 2019 – July 2019
<b>Creation Labs - Team AutoZ</b> <i>Student Researcher</i> <ul style="list-style-type: none"><li>• Collaborated with a team of 10 students to develop an autonomous mobile robot to compete in IGVC competition</li><li>• Led development of sensor localization and electrical driver subsystem</li><li>• Successfully secured funding from DRDO for defense research during tenure as vice-captain</li></ul>	Vellore Institute of Technology - Vellore Sept 2018 – Nov 2019

## PROJECTS

<b>Dynamic Memory Allocator</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>• Developed a malloc package implementation that achieved a peak performance of <b>74%</b> utilization while maintaining a throughput of ~ <b>9000Kops</b></li></ul>
<b>Tiny Shell</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>• Implemented a shell application using UNIX fork and signal handling</li></ul>
<b>HTTP Proxy</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>• Designed a concurrent web proxy with thread-safe caching between concurrent requests</li></ul>
<b>Contributor - Vega</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>• Developed distributed set subtract operation in Rust</li></ul>

## SKILLS

**Programming Languages:** C, C++, Java, Python, MATLAB, SQL, VHDL, Rust, Scala  
**Technologies:** Git, Arduino, ROS, LaTeX, Spark, TensorFlow, PyTorch, Hadoop, Linux  
**Languages:** English (Professional), Hindi (Native), 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